

PETROLEUM DEVELOPMENT CORP Weld County CO

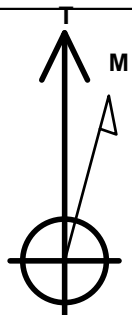
Well Name: **Suden 34U-403**

Surface Location: Suden 34U-HZ Pad Sec.34-T5N-R64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4669.0

| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Slot |
|---------------------------------------|-------|------------|------------|-----------|-------------|------|
| 0.0 | 0.0 | 1376384.28 | 3270234.92 | 40.362520 | -104.530230 | |
| RKB - 15' WELL @ 4684.0ft (RKB - 15') | | | | | | |

WELLBORE TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Shape |
|------------------------|--------|---------|--------|-------|
| SHL 212'FNL & 1082'FEL | 1.0 | 0.0 | 0.0 | Point |
| BHL 500'FSL & 75'FEL | 6805.0 | -4572.1 | 1042.4 | Point |



Azimuths to True North
Magnetic North: 8.37°

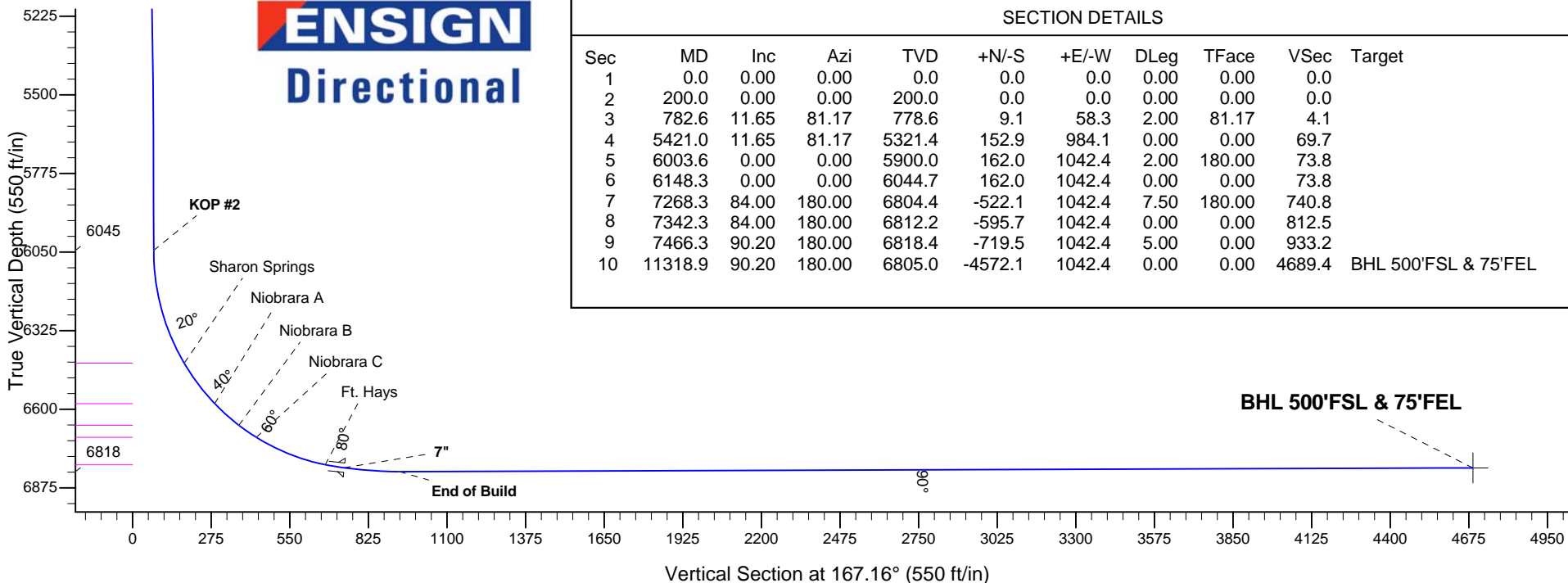
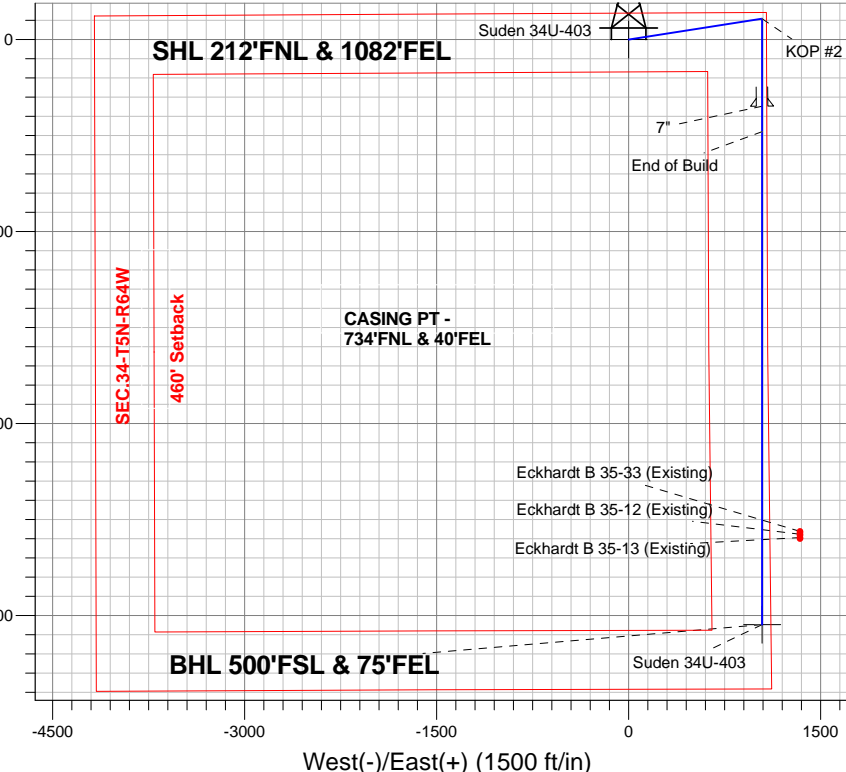
Magnetic Field
Strength: 52851.1nT
Dip Angle: 66.96°
Date: 3/4/2014
Model: IGRF2010

Suden 34U-HZ Pad Sec.34-T5N-R64W
Suden 34U-403
Plan #1 (2-13-14)
11:36, March 05 2014

ANNOTATIONS

| TVD | MD | Annotation |
|--------|--------|--------------|
| 200.0 | 200.0 | KOP #1 |
| 6044.7 | 6148.3 | KOP #2 |
| 6818.4 | 7466.3 | End of Build |

South(-)/North(+) (1500 ft/in)





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.34-T5N-R64W

Suden 34U-HZ Pad Sec.34-T5N-R64W

Suden 34U-403

Wellbore #1

Plan: Plan #1 (2-13-14)

Standard Planning Report

05 March, 2014

| | | | |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Database: | landmark | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Project: | SEC.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | North Reference: | True |
| Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #1 (2-13-14) | | |

| | | | |
|--------------------|----------------------------------------|----------------------|-----------------------------|
| Project | SEC.34-T5N-R64W, Weld County, Colorado | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | Using Well Reference Point |
| Map Zone: | Colorado Northern Zone | | Using geodetic scale factor |

| | | | | | |
|---------------------------------------|----------|--------------|-----------------|-------------------|-------------|
| Site Suden 34U-HZ Pad Sec.34-T5N-R64W | | | | | |
| Site Position: | | Northing: | 1,376,383.32 ft | Latitude: | 40.362520 |
| From: | Lat/Long | Easting: | 3,270,145.76 ft | Longitude: | -104.530550 |
| Position Uncertainty: | 0.0 ft | Slot Radius: | " | Grid Convergence: | 0.63 ° |

| | | | | | | |
|----------------------|---------------|---------|---------------------|-----------------|---------------|-------------|
| Well | Suden 34U-403 | | | | | |
| Well Position | +N/-S | 0.0 ft | Northing: | 1,376,384.28 ft | Latitude: | 40.362520 |
| | +E/-W | 89.2 ft | Easting: | 3,270,234.92 ft | Longitude: | -104.530230 |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft | Ground Level: | 4,669.0 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 3/4/2014 | 8.37 | 66.96 | 52,851 |

| | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| Design | Plan #1 (2-13-14) | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 167.16 |

| Plan Sections | | | | | | | | | | |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|--------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 782.6 | 11.65 | 81.17 | 778.6 | 9.1 | 58.3 | 2.00 | 2.00 | 0.00 | 81.17 | |
| 5,421.0 | 11.65 | 81.17 | 5,321.4 | 152.9 | 984.1 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,003.6 | 0.00 | 0.00 | 5,900.0 | 162.0 | 1,042.4 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 6,148.3 | 0.00 | 0.00 | 6,044.7 | 162.0 | 1,042.4 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,268.3 | 84.00 | 180.00 | 6,804.4 | -522.1 | 1,042.4 | 7.50 | 7.50 | 0.00 | 180.00 | |
| 7,342.3 | 84.00 | 180.00 | 6,812.2 | -595.7 | 1,042.4 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,466.3 | 90.20 | 180.00 | 6,818.4 | -719.5 | 1,042.4 | 5.00 | 5.00 | 0.00 | 0.00 | |
| 11,318.9 | 90.20 | 180.00 | 6,805.0 | -4,572.1 | 1,042.4 | 0.00 | 0.00 | 0.00 | 0.00 | BHL 500'FSL & 75'I |

| | | | |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Database: | landmark | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Project: | SEC.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | North Reference: | True |
| Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #1 (2-13-14) | | |

| Planned Survey | | | | | | | | | |
|-----------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1.0 | 0.00 | 0.00 | 1.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| SHL 212'FNL & 1082'FEL | | | | | | | | | |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| KOP #1 | | | | | | | | | |
| 300.0 | 2.00 | 81.17 | 300.0 | 0.3 | 1.7 | 0.1 | 2.00 | 2.00 | 0.00 |
| 400.0 | 4.00 | 81.17 | 399.8 | 1.1 | 6.9 | 0.5 | 2.00 | 2.00 | 0.00 |
| 500.0 | 6.00 | 81.17 | 499.5 | 2.4 | 15.5 | 1.1 | 2.00 | 2.00 | 0.00 |
| 600.0 | 8.00 | 81.17 | 598.7 | 4.3 | 27.5 | 2.0 | 2.00 | 2.00 | 0.00 |
| 700.0 | 10.00 | 81.17 | 697.5 | 6.7 | 43.0 | 3.0 | 2.00 | 2.00 | 0.00 |
| 782.6 | 11.65 | 81.17 | 778.6 | 9.1 | 58.3 | 4.1 | 2.00 | 2.00 | 0.00 |
| 800.0 | 11.65 | 81.17 | 795.6 | 9.6 | 61.8 | 4.4 | 0.00 | 0.00 | 0.00 |
| 900.0 | 11.65 | 81.17 | 893.6 | 12.7 | 81.8 | 5.8 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 11.65 | 81.17 | 991.5 | 15.8 | 101.7 | 7.2 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 11.65 | 81.17 | 1,089.5 | 18.9 | 121.7 | 8.6 | 0.00 | 0.00 | 0.00 |
| 1,200.0 | 11.65 | 81.17 | 1,187.4 | 22.0 | 141.6 | 10.0 | 0.00 | 0.00 | 0.00 |
| 1,300.0 | 11.65 | 81.17 | 1,285.3 | 25.1 | 161.6 | 11.4 | 0.00 | 0.00 | 0.00 |
| 1,400.0 | 11.65 | 81.17 | 1,383.3 | 28.2 | 181.6 | 12.9 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 11.65 | 81.17 | 1,481.2 | 31.3 | 201.5 | 14.3 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 11.65 | 81.17 | 1,579.1 | 34.4 | 221.5 | 15.7 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 11.65 | 81.17 | 1,677.1 | 37.5 | 241.4 | 17.1 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 11.65 | 81.17 | 1,775.0 | 40.6 | 261.4 | 18.5 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 11.65 | 81.17 | 1,873.0 | 43.7 | 281.4 | 19.9 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 11.65 | 81.17 | 1,970.9 | 46.8 | 301.3 | 21.3 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 11.65 | 81.17 | 2,068.8 | 49.9 | 321.3 | 22.7 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 11.65 | 81.17 | 2,166.8 | 53.0 | 341.2 | 24.2 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 11.65 | 81.17 | 2,264.7 | 56.1 | 361.2 | 25.6 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 11.65 | 81.17 | 2,362.7 | 59.2 | 381.1 | 27.0 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 11.65 | 81.17 | 2,460.6 | 62.3 | 401.1 | 28.4 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 11.65 | 81.17 | 2,558.5 | 65.4 | 421.1 | 29.8 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 11.65 | 81.17 | 2,656.5 | 68.5 | 441.0 | 31.2 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 11.65 | 81.17 | 2,754.4 | 71.6 | 461.0 | 32.6 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 11.65 | 81.17 | 2,852.4 | 74.7 | 480.9 | 34.0 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 11.65 | 81.17 | 2,950.3 | 77.8 | 500.9 | 35.5 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 11.65 | 81.17 | 3,048.2 | 80.9 | 520.9 | 36.9 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 11.65 | 81.17 | 3,146.2 | 84.0 | 540.8 | 38.3 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 11.65 | 81.17 | 3,244.1 | 87.1 | 560.8 | 39.7 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 11.65 | 81.17 | 3,342.0 | 90.2 | 580.7 | 41.1 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 11.65 | 81.17 | 3,440.0 | 93.4 | 600.7 | 42.5 | 0.00 | 0.00 | 0.00 |
| 3,561.3 | 11.65 | 81.17 | 3,500.0 | 95.3 | 612.9 | 43.4 | 0.00 | 0.00 | 0.00 |
| Parkman | | | | | | | | | |
| 3,600.0 | 11.65 | 81.17 | 3,537.9 | 96.5 | 620.7 | 43.9 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 11.65 | 81.17 | 3,635.9 | 99.6 | 640.6 | 45.3 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 11.65 | 81.17 | 3,733.8 | 102.7 | 660.6 | 46.8 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 11.65 | 81.17 | 3,831.7 | 105.8 | 680.5 | 48.2 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 11.65 | 81.17 | 3,929.7 | 108.9 | 700.5 | 49.6 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 11.65 | 81.17 | 4,027.6 | 112.0 | 720.4 | 51.0 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 11.65 | 81.17 | 4,125.6 | 115.1 | 740.4 | 52.4 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 11.65 | 81.17 | 4,223.5 | 118.2 | 760.4 | 53.8 | 0.00 | 0.00 | 0.00 |
| 4,327.1 | 11.65 | 81.17 | 4,250.0 | 119.0 | 765.8 | 54.2 | 0.00 | 0.00 | 0.00 |
| Sussex | | | | | | | | | |
| 4,400.0 | 11.65 | 81.17 | 4,321.4 | 121.3 | 780.3 | 55.2 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Database: | landmark | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Project: | SEC.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | North Reference: | True |
| Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #1 (2-13-14) | | |

| Planned Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 4,500.0 | 11.65 | 81.17 | 4,419.4 | 124.4 | 800.3 | 56.6 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 11.65 | 81.17 | 4,517.3 | 127.5 | 820.2 | 58.1 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 11.65 | 81.17 | 4,615.3 | 130.6 | 840.2 | 59.5 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 11.65 | 81.17 | 4,713.2 | 133.7 | 860.2 | 60.9 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 11.65 | 81.17 | 4,811.1 | 136.8 | 880.1 | 62.3 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 11.65 | 81.17 | 4,909.1 | 139.9 | 900.1 | 63.7 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 11.65 | 81.17 | 5,007.0 | 143.0 | 920.0 | 65.1 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 11.65 | 81.17 | 5,104.9 | 146.1 | 940.0 | 66.5 | 0.00 | 0.00 | 0.00 |
| 5,266.4 | 11.65 | 81.17 | 5,170.0 | 148.1 | 953.3 | 67.5 | 0.00 | 0.00 | 0.00 |
| Shannon | | | | | | | | | |
| 5,300.0 | 11.65 | 81.17 | 5,202.9 | 149.2 | 960.0 | 67.9 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 11.65 | 81.17 | 5,300.8 | 152.3 | 979.9 | 69.4 | 0.00 | 0.00 | 0.00 |
| 5,421.0 | 11.65 | 81.17 | 5,321.4 | 152.9 | 984.1 | 69.7 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 10.07 | 81.17 | 5,399.0 | 155.2 | 998.8 | 70.7 | 2.00 | -2.00 | 0.00 |
| 5,600.0 | 8.07 | 81.17 | 5,497.7 | 157.6 | 1,014.4 | 71.8 | 2.00 | -2.00 | 0.00 |
| 5,700.0 | 6.07 | 81.17 | 5,597.0 | 159.5 | 1,026.6 | 72.7 | 2.00 | -2.00 | 0.00 |
| 5,800.0 | 4.07 | 81.17 | 5,696.6 | 160.9 | 1,035.3 | 73.3 | 2.00 | -2.00 | 0.00 |
| 5,900.0 | 2.07 | 81.17 | 5,796.4 | 161.7 | 1,040.6 | 73.7 | 2.00 | -2.00 | 0.00 |
| 6,000.0 | 0.07 | 81.17 | 5,896.4 | 162.0 | 1,042.4 | 73.8 | 2.00 | -2.00 | 0.00 |
| 6,003.6 | 0.00 | 0.00 | 5,900.0 | 162.0 | 1,042.4 | 73.8 | 2.00 | -2.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 5,996.4 | 162.0 | 1,042.4 | 73.8 | 0.00 | 0.00 | 0.00 |
| 6,148.3 | 0.00 | 0.00 | 6,044.7 | 162.0 | 1,042.4 | 73.8 | 0.00 | 0.00 | 0.00 |
| KOP #2 | | | | | | | | | |
| 6,200.0 | 3.88 | 180.00 | 6,096.3 | 160.3 | 1,042.4 | 75.5 | 7.50 | 7.50 | 0.00 |
| 6,300.0 | 11.38 | 180.00 | 6,195.4 | 147.0 | 1,042.4 | 88.4 | 7.50 | 7.50 | 0.00 |
| 6,400.0 | 18.88 | 180.00 | 6,291.9 | 120.9 | 1,042.4 | 113.8 | 7.50 | 7.50 | 0.00 |
| 6,500.0 | 26.38 | 180.00 | 6,384.1 | 82.5 | 1,042.4 | 151.3 | 7.50 | 7.50 | 0.00 |
| 6,562.6 | 31.08 | 180.00 | 6,439.0 | 52.4 | 1,042.4 | 180.7 | 7.50 | 7.50 | 0.00 |
| Sharon Springs | | | | | | | | | |
| 6,600.0 | 33.88 | 180.00 | 6,470.5 | 32.3 | 1,042.4 | 200.2 | 7.50 | 7.50 | 0.00 |
| 6,700.0 | 41.38 | 180.00 | 6,549.7 | -28.7 | 1,042.4 | 259.7 | 7.50 | 7.50 | 0.00 |
| 6,741.4 | 44.49 | 180.00 | 6,580.0 | -56.9 | 1,042.4 | 287.2 | 7.50 | 7.50 | 0.00 |
| Niobrara A | | | | | | | | | |
| 6,800.0 | 48.88 | 180.00 | 6,620.2 | -99.5 | 1,042.4 | 328.8 | 7.50 | 7.50 | 0.00 |
| 6,857.0 | 53.15 | 180.00 | 6,656.0 | -143.8 | 1,042.4 | 371.9 | 7.50 | 7.50 | 0.00 |
| Niobrara B | | | | | | | | | |
| 6,900.0 | 56.38 | 180.00 | 6,680.8 | -178.9 | 1,042.4 | 406.2 | 7.50 | 7.50 | 0.00 |
| 6,932.0 | 58.78 | 180.00 | 6,698.0 | -206.0 | 1,042.4 | 432.6 | 7.50 | 7.50 | 0.00 |
| Niobrara C | | | | | | | | | |
| 7,000.0 | 63.88 | 180.00 | 6,730.6 | -265.6 | 1,042.4 | 490.7 | 7.50 | 7.50 | 0.00 |
| 7,100.0 | 71.38 | 180.00 | 6,768.6 | -358.0 | 1,042.4 | 580.8 | 7.50 | 7.50 | 0.00 |
| 7,198.6 | 78.77 | 180.00 | 6,794.0 | -453.2 | 1,042.4 | 673.6 | 7.50 | 7.50 | 0.00 |
| Ft. Hays | | | | | | | | | |
| 7,200.0 | 78.88 | 180.00 | 6,794.3 | -454.6 | 1,042.4 | 674.9 | 7.50 | 7.50 | 0.00 |
| 7,268.3 | 84.00 | 180.00 | 6,804.4 | -522.1 | 1,042.4 | 740.8 | 7.50 | 7.50 | 0.00 |
| 7" | | | | | | | | | |
| 7,300.0 | 84.00 | 180.00 | 6,807.8 | -553.6 | 1,042.4 | 771.5 | 0.00 | 0.00 | 0.00 |
| 7,342.3 | 84.00 | 180.00 | 6,812.2 | -595.7 | 1,042.4 | 812.5 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 86.88 | 180.00 | 6,816.8 | -653.2 | 1,042.4 | 868.6 | 5.00 | 5.00 | 0.00 |
| 7,466.3 | 90.20 | 180.00 | 6,818.4 | -719.5 | 1,042.4 | 933.2 | 5.00 | 5.00 | 0.00 |
| End of Build | | | | | | | | | |
| 7,500.0 | 90.20 | 180.00 | 6,818.3 | -753.2 | 1,042.4 | 966.1 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Database: | landmark | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Project: | SEC.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | North Reference: | True |
| Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #1 (2-13-14) | | |

Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 7,600.0 | 90.20 | 180.00 | 6,818.0 | -853.2 | 1,042.4 | 1,063.5 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 90.20 | 180.00 | 6,817.6 | -953.2 | 1,042.4 | 1,161.0 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 90.20 | 180.00 | 6,817.3 | -1,053.2 | 1,042.4 | 1,258.5 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 90.20 | 180.00 | 6,816.9 | -1,153.2 | 1,042.4 | 1,356.0 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 90.20 | 180.00 | 6,816.6 | -1,253.2 | 1,042.4 | 1,453.5 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 90.20 | 180.00 | 6,816.2 | -1,353.2 | 1,042.4 | 1,551.0 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 90.20 | 180.00 | 6,815.9 | -1,453.2 | 1,042.4 | 1,648.5 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 90.20 | 180.00 | 6,815.5 | -1,553.2 | 1,042.4 | 1,746.0 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 90.20 | 180.00 | 6,815.2 | -1,653.2 | 1,042.4 | 1,843.5 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 90.20 | 180.00 | 6,814.8 | -1,753.2 | 1,042.4 | 1,941.0 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 90.20 | 180.00 | 6,814.5 | -1,853.2 | 1,042.4 | 2,038.5 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 90.20 | 180.00 | 6,814.1 | -1,953.2 | 1,042.4 | 2,136.0 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 90.20 | 180.00 | 6,813.8 | -2,053.2 | 1,042.4 | 2,233.5 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 90.20 | 180.00 | 6,813.4 | -2,153.2 | 1,042.4 | 2,331.0 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 90.20 | 180.00 | 6,813.1 | -2,253.2 | 1,042.4 | 2,428.5 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 90.20 | 180.00 | 6,812.7 | -2,353.2 | 1,042.4 | 2,526.0 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 90.20 | 180.00 | 6,812.4 | -2,453.2 | 1,042.4 | 2,623.5 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 90.20 | 180.00 | 6,812.0 | -2,553.2 | 1,042.4 | 2,721.0 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 90.20 | 180.00 | 6,811.7 | -2,653.2 | 1,042.4 | 2,818.5 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 90.20 | 180.00 | 6,811.3 | -2,753.2 | 1,042.4 | 2,916.0 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 90.20 | 180.00 | 6,811.0 | -2,853.2 | 1,042.4 | 3,013.5 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 90.20 | 180.00 | 6,810.7 | -2,953.2 | 1,042.4 | 3,111.0 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 90.20 | 180.00 | 6,810.3 | -3,053.2 | 1,042.4 | 3,208.5 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 90.20 | 180.00 | 6,810.0 | -3,153.1 | 1,042.4 | 3,306.0 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 90.20 | 180.00 | 6,809.6 | -3,253.1 | 1,042.4 | 3,403.5 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 90.20 | 180.00 | 6,809.3 | -3,353.1 | 1,042.4 | 3,501.0 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 90.20 | 180.00 | 6,808.9 | -3,453.1 | 1,042.4 | 3,598.5 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 90.20 | 180.00 | 6,808.6 | -3,553.1 | 1,042.4 | 3,696.0 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 90.20 | 180.00 | 6,808.2 | -3,653.1 | 1,042.4 | 3,793.5 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 90.20 | 180.00 | 6,807.9 | -3,753.1 | 1,042.4 | 3,891.0 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 90.20 | 180.00 | 6,807.5 | -3,853.1 | 1,042.4 | 3,988.5 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 90.20 | 180.00 | 6,807.2 | -3,953.1 | 1,042.4 | 4,086.0 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 90.20 | 180.00 | 6,806.8 | -4,053.1 | 1,042.4 | 4,183.5 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 90.20 | 180.00 | 6,806.5 | -4,153.1 | 1,042.4 | 4,281.0 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.20 | 180.00 | 6,806.1 | -4,253.1 | 1,042.4 | 4,378.5 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.20 | 180.00 | 6,805.8 | -4,353.1 | 1,042.4 | 4,476.0 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.20 | 180.00 | 6,805.4 | -4,453.1 | 1,042.4 | 4,573.5 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.20 | 180.00 | 6,805.1 | -4,553.1 | 1,042.4 | 4,670.9 | 0.00 | 0.00 | 0.00 |
| 11,318.9 | 90.20 | 180.00 | 6,805.0 | -4,572.1 | 1,042.4 | 4,689.4 | 0.00 | 0.00 | 0.00 |
| BHL 500'FSL & 75'FEL | | | | | | | | | |

Casing Points

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |
|---------------------|---------------------|------|---------------------|-------------------|
| 7,268.3 | 6,804.4 | 7" | 7 | 7-1/2 |

| | | | |
|------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Database: | landmark | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Project: | SEC.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | North Reference: | True |
| Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #1 (2-13-14) | | |

| Formations | | | | | | |
|---------------------|---------------------|----------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 3,561.3 | 3,500.0 | Parkman | | 0.00 | | |
| 4,327.1 | 4,250.0 | Sussex | | 0.00 | | |
| 5,266.4 | 5,170.0 | Shannon | | 0.00 | | |
| 6,562.6 | 6,439.0 | Sharon Springs | | 0.00 | | |
| 6,741.4 | 6,580.0 | Niobrara A | | 0.00 | | |
| 6,857.0 | 6,656.0 | Niobrara B | | 0.00 | | |
| 6,932.0 | 6,698.0 | Niobrara C | | 0.00 | | |
| 7,198.6 | 6,794.0 | Ft. Hays | | 0.00 | | |

| Plan Annotations | | | | | |
|---------------------|---------------------|-------------------|------------|--------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | | |
| | | +N/-S (ft) | +E/-W (ft) | Comment | |
| 200.0 | 200.0 | 0.0 | 0.0 | KOP #1 | |
| 6,148.3 | 6,044.7 | 162.0 | 1,042.4 | KOP #2 | |
| 7,466.3 | 6,818.4 | -719.5 | 1,042.4 | End of Build | |



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.34-T5N-R64W

Suden 34U-HZ Pad Sec.34-T5N-R64W

Suden 34U-403

Wellbore #1

Plan #1 (2-13-14)

Anticollision Report

05 March, 2014



| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| | |
|-------------------------------------|---------------------------------------------------------------------|
| Reference | Plan #1 (2-13-14) |
| Filter type: | NO GLOBAL FILTER: Using user defined selection & filtering criteria |
| Interpolation Method: | MD Interval 100.0ft |
| Depth Range: | Unlimited |
| Results Limited by: | Maximum center-center distance of 1,000.0ft |
| Warning Levels Evaluated at: | 2.00 Sigma |
| Error Model: | ISCWSA |
| Scan Method: | Closest Approach 3D |
| Error Surface: | Elliptical Conic |

| Survey Tool Program | | Date | 3/4/2014 | | |
|---------------------|----------|---------------------------------|-----------|----------------|--|
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 0.0 | 11,318.2 | Plan #1 (2-13-14) (Wellbore #1) | MWD | MWD - Standard | |

| Summary | | | | | | |
|---------------------------------------------------------|-------------------------------|----------------------------|-------------------------------|-----------------------|-------------------|------------|
| Site Name | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Between Ellipses (ft) | Separation Factor | Warning |
| Offset Well - Wellbore - Design | | | | | | |
| Suden (Existing) Pad Sec.34-T5N-R64W | | | | | | |
| Eckhardt B 35-12 (Existing) - Wellbore #1 - Wellbore #1 | 10,612.1 | 6,743.5 | 295.4 | 211.4 | 3.516 | CC, ES, SF |
| Eckhardt B 35-13 (Existing) - Wellbore #1 - Wellbore #1 | 10,637.6 | 6,743.4 | 295.4 | 210.9 | 3.497 | CC, ES, SF |
| Eckhardt B 35-33 (Existing) - Wellbore #1 - Wellbore #1 | 10,590.3 | 6,743.5 | 295.4 | 211.8 | 3.534 | CC |
| Eckhardt B 35-33 (Existing) - Wellbore #1 - Wellbore #1 | 10,600.0 | 6,743.5 | 295.6 | 211.8 | 3.528 | ES, SF |
| Suden 34U-HZ Pad Sec.34-T5N-R64W | | | | | | |
| Suden 34R-323 - Wellbore #1 - Plan #1 (2-13-14) | 200.0 | 198.0 | 89.2 | 88.5 | 133.138 | CC, ES |
| Suden 34R-323 - Wellbore #1 - Plan #1 (2-13-14) | 11,318.9 | 11,142.6 | 995.9 | 818.5 | 5.612 | SF |
| Suden 34R-423 - Wellbore #1 - Plan #1 (2-13-14) | 200.0 | 199.0 | 58.5 | 57.8 | 87.080 | CC, ES |
| Suden 34R-423 - Wellbore #1 - Plan #1 (2-13-14) | 11,318.9 | 11,234.0 | 741.6 | 562.5 | 4.141 | SF |
| Suden 34U-243 - Wellbore #1 - Plan #1 (2-13-14) | 200.0 | 199.0 | 27.9 | 27.2 | 41.467 | CC, ES |
| Suden 34U-243 - Wellbore #1 - Plan #1 (2-13-14) | 11,318.9 | 11,126.5 | 373.5 | 214.9 | 2.355 | SF |

| Offset Design | | | | | | | | | | | | Suden (Existing) Pad Sec.34-T5N-R64W - Eckhardt B 35-12 (Existing) - Wellbore #1 - Wellbore #1 | | Offset Site Error: | | 0.0 ft | |
|--------------------------|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|--------------------|------------------------------------------------------------------------------------------------|------------|--------------------|--|--------|--|
| Survey Program: 7038-MWD | | | | | | | | | | | | | | Offset Well Error: | | 0.0 ft | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | | | | |
| Measured Depth | Vertical Depth | Measured Depth | Vertical Depth | Reference | Offset | Highside Toolface | Offset Wellbore Centre | | Between Centres | Between Ellipses | Minimum Separation | Separation Factor | Warning | | | | |
| (ft) | (ft) | (ft) | (ft) | (ft) | (ft) | (°) | +N/-S (ft) | +E/-W (ft) | (ft) | (ft) | (ft) | | | | | | |
| 9,700.0 | 6,810.7 | 6,746.7 | 6,746.7 | 61.8 | 7.6 | -90.62 | -3,865.3 | 1,337.9 | 958.8 | 891.8 | 66.98 | 14.314 | | | | | |
| 9,800.0 | 6,810.3 | 6,746.3 | 6,746.3 | 63.6 | 7.6 | -90.55 | -3,865.3 | 1,337.9 | 864.2 | 795.4 | 68.83 | 12.555 | | | | | |
| 9,900.0 | 6,810.0 | 6,746.0 | 6,746.0 | 65.4 | 7.6 | -90.48 | -3,865.3 | 1,337.9 | 771.0 | 700.3 | 70.69 | 10.906 | | | | | |
| 10,000.0 | 6,809.6 | 6,745.6 | 6,745.6 | 67.2 | 7.6 | -90.41 | -3,865.3 | 1,337.9 | 679.7 | 607.1 | 72.55 | 9.368 | | | | | |
| 10,100.0 | 6,809.3 | 6,745.3 | 6,745.3 | 69.0 | 7.6 | -90.35 | -3,865.3 | 1,337.9 | 591.2 | 516.8 | 74.42 | 7.945 | | | | | |
| 10,200.0 | 6,808.9 | 6,744.9 | 6,744.9 | 70.8 | 7.6 | -90.28 | -3,865.3 | 1,337.9 | 507.1 | 430.8 | 76.28 | 6.647 | | | | | |
| 10,300.0 | 6,808.6 | 6,744.6 | 6,744.6 | 72.6 | 7.6 | -90.21 | -3,865.3 | 1,337.9 | 429.8 | 351.6 | 78.15 | 5.499 | | | | | |
| 10,400.0 | 6,808.2 | 6,744.2 | 6,744.2 | 74.4 | 7.6 | -90.14 | -3,865.3 | 1,337.9 | 363.7 | 283.7 | 80.03 | 4.545 | | | | | |
| 10,500.0 | 6,807.9 | 6,743.9 | 6,743.9 | 76.2 | 7.6 | -90.08 | -3,865.3 | 1,337.9 | 316.0 | 234.1 | 81.90 | 3.858 | | | | | |
| 10,600.0 | 6,807.5 | 6,743.5 | 6,743.5 | 78.1 | 7.6 | -90.01 | -3,865.3 | 1,337.9 | 295.7 | 211.9 | 83.78 | 3.529 | | | | | |
| 10,612.1 | 6,807.5 | 6,743.5 | 6,743.5 | 78.3 | 7.6 | -90.00 | -3,865.3 | 1,337.9 | 295.4 | 211.4 | 84.01 | 3.516 | CC, ES, SF | | | | |
| 10,700.0 | 6,807.2 | 6,743.2 | 6,743.2 | 79.9 | 7.6 | -89.94 | -3,865.3 | 1,337.9 | 308.2 | 222.5 | 85.66 | 3.598 | | | | | |
| 10,800.0 | 6,806.8 | 6,742.8 | 6,742.8 | 81.7 | 7.6 | -89.87 | -3,865.3 | 1,337.9 | 350.1 | 262.5 | 87.54 | 3.999 | | | | | |
| 10,900.0 | 6,806.5 | 6,742.5 | 6,742.5 | 83.6 | 7.6 | -89.81 | -3,865.3 | 1,337.9 | 412.5 | 323.0 | 89.43 | 4.612 | | | | | |
| 11,000.0 | 6,806.1 | 6,742.1 | 6,742.1 | 85.4 | 7.6 | -89.74 | -3,865.3 | 1,337.9 | 487.5 | 396.2 | 91.31 | 5.339 | | | | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| | | | | | | | | | | | | | |
|--------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|-----------------------------------|----------------------|-----------------------|-------------------------|---------------------------|---------|
| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
| Survey Program: 7038-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | Distance | | | | | | | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | |
| 11,100.0 | 6,805.8 | 6,741.8 | 6,741.8 | 87.3 | 7.6 | -89.67 | -3,865.3 | 1,337.9 | 570.3 | 477.1 | 93.20 | 6.119 | |
| 11,200.0 | 6,805.4 | 6,741.4 | 6,741.4 | 89.1 | 7.6 | -89.60 | -3,865.3 | 1,337.9 | 657.9 | 562.8 | 95.09 | 6.919 | |
| 11,300.0 | 6,805.1 | 6,741.1 | 6,741.1 | 91.0 | 7.6 | -89.53 | -3,865.3 | 1,337.9 | 748.6 | 651.6 | 96.98 | 7.719 | |
| 11,318.9 | 6,805.0 | 6,741.0 | 6,741.0 | 91.3 | 7.6 | -89.52 | -3,865.3 | 1,337.9 | 766.0 | 668.7 | 97.27 | 7.875 | |

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|---------------------------|------------|
| Survey Program: 7600-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Suden (Existing) Pad Sec.34-T5N-R64W - Eckhardt B 35-13 (Existing) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
| 9,700.0 | 6,810.7 | 6,746.7 | 6,746.7 | 61.8 | 7.6 | -90.63 | -3,890.8 | 1,337.9 | 983.1 | 916.1 | 66.98 | 14.677 | |
| 9,800.0 | 6,810.3 | 6,746.3 | 6,746.3 | 63.6 | 7.6 | -90.57 | -3,890.8 | 1,337.9 | 888.2 | 819.4 | 68.83 | 12.904 | |
| 9,900.0 | 6,810.0 | 6,746.0 | 6,746.0 | 65.4 | 7.6 | -90.50 | -3,890.8 | 1,337.9 | 794.6 | 723.9 | 70.69 | 11.241 | |
| 10,000.0 | 6,809.6 | 6,745.6 | 6,745.6 | 67.2 | 7.6 | -90.43 | -3,890.8 | 1,337.9 | 702.7 | 630.2 | 72.55 | 9.686 | |
| 10,100.0 | 6,809.3 | 6,745.3 | 6,745.3 | 69.0 | 7.6 | -90.36 | -3,890.8 | 1,337.9 | 613.5 | 539.0 | 74.41 | 8.244 | |
| 10,200.0 | 6,808.9 | 6,744.9 | 6,744.9 | 70.8 | 7.6 | -90.30 | -3,890.8 | 1,337.9 | 528.0 | 451.7 | 76.28 | 6.922 | |
| 10,300.0 | 6,808.6 | 6,744.6 | 6,744.6 | 72.6 | 7.6 | -90.23 | -3,890.8 | 1,337.9 | 448.6 | 370.5 | 78.15 | 5.740 | |
| 10,400.0 | 6,808.2 | 6,744.2 | 6,744.2 | 74.4 | 7.6 | -90.16 | -3,890.8 | 1,337.9 | 379.1 | 299.1 | 80.03 | 4.738 | |
| 10,500.0 | 6,807.9 | 6,743.9 | 6,743.9 | 76.2 | 7.6 | -90.09 | -3,890.8 | 1,337.9 | 325.9 | 244.0 | 81.90 | 3.979 | |
| 10,600.0 | 6,807.5 | 6,743.5 | 6,743.5 | 78.1 | 7.6 | -90.03 | -3,890.8 | 1,337.9 | 297.8 | 214.0 | 83.78 | 3.555 | |
| 10,637.6 | 6,807.4 | 6,743.4 | 6,743.4 | 78.7 | 7.6 | -90.00 | -3,890.8 | 1,337.9 | 295.4 | 210.9 | 84.49 | 3.497 | CC, ES, SF |
| 10,700.0 | 6,807.2 | 6,743.2 | 6,743.2 | 79.9 | 7.6 | -89.96 | -3,890.8 | 1,337.9 | 301.9 | 216.3 | 85.66 | 3.525 | |
| 10,800.0 | 6,806.8 | 6,742.8 | 6,742.8 | 81.7 | 7.6 | -89.89 | -3,890.8 | 1,337.9 | 337.1 | 249.5 | 87.54 | 3.851 | |
| 10,900.0 | 6,806.5 | 6,742.5 | 6,742.5 | 83.6 | 7.6 | -89.82 | -3,890.8 | 1,337.9 | 395.1 | 305.7 | 89.43 | 4.418 | |
| 11,000.0 | 6,806.1 | 6,742.1 | 6,742.1 | 85.4 | 7.6 | -89.75 | -3,890.8 | 1,337.9 | 467.5 | 376.2 | 91.31 | 5.120 | |
| 11,100.0 | 6,805.8 | 6,741.8 | 6,741.8 | 87.3 | 7.6 | -89.69 | -3,890.8 | 1,337.9 | 548.7 | 455.5 | 93.20 | 5.887 | |
| 11,200.0 | 6,805.4 | 6,741.4 | 6,741.4 | 89.1 | 7.6 | -89.62 | -3,890.8 | 1,337.9 | 635.2 | 540.1 | 95.09 | 6.680 | |
| 11,300.0 | 6,805.1 | 6,741.1 | 6,741.1 | 91.0 | 7.6 | -89.55 | -3,890.8 | 1,337.9 | 725.2 | 628.3 | 96.98 | 7.478 | |
| 11,318.9 | 6,805.0 | 6,741.0 | 6,741.0 | 91.3 | 7.6 | -89.54 | -3,890.8 | 1,337.9 | 742.6 | 645.3 | 97.27 | 7.634 | |

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design Suden (Existing) Pad Sec.34-T5N-R64W - Eckhardt B 35-33 (Existing) - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|-----------------------------------|----------------------|-----------------------|-------------------------|---------------------------|---------|
| Survey Program: 6912-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
| 9,700.0 | 6,810.7 | 6,746.7 | 6,746.7 | 61.8 | 7.6 | -90.60 | -3,843.4 | 1,337.9 | 938.0 | 871.0 | 66.98 | 14.004 | |
| 9,800.0 | 6,810.3 | 6,746.3 | 6,746.3 | 63.6 | 7.6 | -90.54 | -3,843.4 | 1,337.9 | 843.7 | 774.9 | 68.83 | 12.257 | |
| 9,900.0 | 6,810.0 | 6,746.0 | 6,746.0 | 65.4 | 7.6 | -90.47 | -3,843.4 | 1,337.9 | 750.8 | 680.1 | 70.69 | 10.621 | |
| 10,000.0 | 6,809.6 | 6,745.6 | 6,745.6 | 67.2 | 7.6 | -90.40 | -3,843.4 | 1,337.9 | 660.1 | 587.5 | 72.55 | 9.098 | |
| 10,100.0 | 6,809.3 | 6,745.3 | 6,745.3 | 69.0 | 7.6 | -90.33 | -3,843.4 | 1,337.9 | 572.4 | 498.0 | 74.42 | 7.692 | |
| 10,200.0 | 6,808.9 | 6,744.9 | 6,744.9 | 70.8 | 7.6 | -90.26 | -3,843.4 | 1,337.9 | 489.5 | 413.2 | 76.28 | 6.416 | |
| 10,300.0 | 6,808.6 | 6,744.6 | 6,744.6 | 72.6 | 7.6 | -90.20 | -3,843.4 | 1,337.9 | 414.2 | 336.0 | 78.15 | 5.299 | |
| 10,400.0 | 6,808.2 | 6,744.2 | 6,744.2 | 74.4 | 7.6 | -90.13 | -3,843.4 | 1,337.9 | 351.4 | 271.4 | 80.03 | 4.391 | |
| 10,500.0 | 6,807.9 | 6,743.9 | 6,743.9 | 76.2 | 7.6 | -90.06 | -3,843.4 | 1,337.9 | 308.9 | 227.0 | 81.90 | 3.771 | |
| 10,590.3 | 6,807.5 | 6,743.5 | 6,743.5 | 77.9 | 7.6 | -90.00 | -3,843.4 | 1,337.9 | 295.4 | 211.8 | 83.60 | 3.534 CC | |
| 10,600.0 | 6,807.5 | 6,743.5 | 6,743.5 | 78.1 | 7.6 | -89.99 | -3,843.4 | 1,337.9 | 295.6 | 211.8 | 83.78 | 3.528 ES, SF | |
| 10,700.0 | 6,807.2 | 6,743.2 | 6,743.2 | 79.9 | 7.6 | -89.93 | -3,843.4 | 1,337.9 | 315.1 | 229.5 | 85.66 | 3.679 | |
| 10,800.0 | 6,806.8 | 6,742.8 | 6,742.8 | 81.7 | 7.6 | -89.86 | -3,843.4 | 1,337.9 | 362.3 | 274.7 | 87.54 | 4.138 | |
| 10,900.0 | 6,806.5 | 6,742.5 | 6,742.5 | 83.6 | 7.6 | -89.79 | -3,843.4 | 1,337.9 | 428.0 | 338.6 | 89.43 | 4.786 | |
| 11,000.0 | 6,806.1 | 6,742.1 | 6,742.1 | 85.4 | 7.6 | -89.72 | -3,843.4 | 1,337.9 | 505.1 | 413.8 | 91.31 | 5.532 | |
| 11,100.0 | 6,805.8 | 6,741.8 | 6,741.8 | 87.3 | 7.6 | -89.65 | -3,843.4 | 1,337.9 | 589.1 | 495.9 | 93.20 | 6.321 | |
| 11,200.0 | 6,805.4 | 6,741.4 | 6,741.4 | 89.1 | 7.6 | -89.59 | -3,843.4 | 1,337.9 | 677.5 | 582.4 | 95.09 | 7.125 | |
| 11,300.0 | 6,805.1 | 6,741.1 | 6,741.1 | 91.0 | 7.6 | -89.52 | -3,843.4 | 1,337.9 | 768.7 | 671.8 | 96.98 | 7.927 | |
| 11,318.9 | 6,805.0 | 6,741.0 | 6,741.0 | 91.3 | 7.6 | -89.51 | -3,843.4 | 1,337.9 | 786.2 | 689.0 | 97.27 | 8.083 | |

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design Suden 34U-HZ Pad Sec.34-T5N-R64W - Suden 34R-323 - Wellbore #1 - Plan #1 (2-13-14) | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|----------------|-------------|---------------------------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Semi Major Axis Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -90.01 | 0.0 | -89.2 | 89.2 | | | | | |
| 100.0 | 100.0 | 98.0 | 98.0 | 0.1 | 0.1 | -90.01 | 0.0 | -89.2 | 89.2 | 89.0 | 0.22 | 400.753 | | |
| 200.0 | 200.0 | 198.0 | 198.0 | 0.3 | 0.3 | -90.01 | 0.0 | -89.2 | 89.2 | 88.5 | 0.67 | 133.138 CC, ES | | |
| 300.0 | 300.0 | 298.0 | 298.0 | 0.6 | 0.6 | -171.34 | 0.0 | -89.2 | 90.9 | 89.8 | 1.12 | 81.374 | | |
| 400.0 | 399.8 | 397.8 | 397.8 | 0.8 | 0.8 | -171.79 | 0.0 | -89.2 | 96.1 | 94.5 | 1.57 | 61.310 | | |
| 500.0 | 499.5 | 497.5 | 497.5 | 1.0 | 1.0 | -172.45 | 0.0 | -89.2 | 104.7 | 102.7 | 2.02 | 51.782 | | |
| 600.0 | 598.7 | 596.7 | 596.7 | 1.3 | 1.2 | -173.21 | 0.0 | -89.2 | 116.8 | 114.3 | 2.48 | 47.095 | | |
| 700.0 | 697.5 | 695.5 | 695.5 | 1.6 | 1.5 | -173.98 | 0.0 | -89.2 | 132.4 | 129.4 | 2.94 | 45.009 | | |
| 800.0 | 795.6 | 793.6 | 793.6 | 2.0 | 1.7 | -174.70 | 0.0 | -89.2 | 151.3 | 147.9 | 3.40 | 44.472 | | |
| 900.0 | 893.6 | 891.6 | 891.6 | 2.4 | 1.9 | -175.33 | 0.0 | -89.2 | 171.4 | 167.6 | 3.86 | 44.376 | | |
| 1,000.0 | 991.5 | 989.5 | 989.5 | 2.9 | 2.1 | -175.82 | 0.0 | -89.2 | 191.6 | 187.2 | 4.33 | 44.256 | | |
| 1,100.0 | 1,089.5 | 1,087.5 | 1,087.5 | 3.3 | 2.3 | -176.22 | 0.0 | -89.2 | 211.7 | 206.9 | 4.80 | 44.130 | | |
| 1,200.0 | 1,187.4 | 1,185.4 | 1,185.4 | 3.7 | 2.6 | -176.55 | 0.0 | -89.2 | 231.9 | 226.6 | 5.27 | 44.008 | | |
| 1,300.0 | 1,285.3 | 1,283.3 | 1,283.3 | 4.2 | 2.8 | -176.82 | 0.0 | -89.2 | 252.0 | 246.3 | 5.74 | 43.893 | | |
| 1,400.0 | 1,383.3 | 1,381.3 | 1,381.3 | 4.6 | 3.0 | -177.06 | 0.0 | -89.2 | 272.2 | 266.0 | 6.22 | 43.786 | | |
| 1,500.0 | 1,481.2 | 1,479.2 | 1,479.2 | 5.1 | 3.2 | -177.26 | 0.0 | -89.2 | 292.4 | 285.7 | 6.69 | 43.687 | | |
| 1,600.0 | 1,579.1 | 1,577.1 | 1,577.1 | 5.5 | 3.4 | -177.44 | 0.0 | -89.2 | 312.6 | 305.4 | 7.17 | 43.597 | | |
| 1,700.0 | 1,677.1 | 1,675.1 | 1,675.1 | 5.9 | 3.7 | -177.59 | 0.0 | -89.2 | 332.7 | 325.1 | 7.65 | 43.513 | | |
| 1,800.0 | 1,775.0 | 1,773.0 | 1,773.0 | 6.4 | 3.9 | -177.73 | 0.0 | -89.2 | 352.9 | 344.8 | 8.12 | 43.437 | | |
| 1,900.0 | 1,873.0 | 1,871.0 | 1,871.0 | 6.8 | 4.1 | -177.85 | 0.0 | -89.2 | 373.1 | 364.5 | 8.60 | 43.366 | | |
| 2,000.0 | 1,970.9 | 1,968.9 | 1,968.9 | 7.3 | 4.3 | -177.96 | 0.0 | -89.2 | 393.3 | 384.2 | 9.08 | 43.301 | | |
| 2,100.0 | 2,068.8 | 2,066.8 | 2,066.8 | 7.7 | 4.5 | -178.06 | 0.0 | -89.2 | 413.5 | 403.9 | 9.56 | 43.241 | | |
| 2,200.0 | 2,166.8 | 2,164.8 | 2,164.8 | 8.2 | 4.8 | -178.15 | 0.0 | -89.2 | 433.7 | 423.6 | 10.04 | 43.185 | | |
| 2,300.0 | 2,264.7 | 2,262.7 | 2,262.7 | 8.6 | 5.0 | -178.24 | 0.0 | -89.2 | 453.9 | 443.3 | 10.52 | 43.134 | | |
| 2,400.0 | 2,362.7 | 2,360.7 | 2,360.7 | 9.1 | 5.2 | -178.31 | 0.0 | -89.2 | 474.0 | 463.0 | 11.00 | 43.085 | | |
| 2,500.0 | 2,460.6 | 2,458.6 | 2,458.6 | 9.5 | 5.4 | -178.38 | 0.0 | -89.2 | 494.2 | 482.7 | 11.48 | 43.041 | | |
| 2,600.0 | 2,558.5 | 2,556.5 | 2,556.5 | 10.0 | 5.7 | -178.39 | 0.5 | -88.7 | 513.9 | 502.0 | 11.98 | 42.902 | | |
| 2,700.0 | 2,656.5 | 2,679.4 | 2,679.3 | 10.4 | 5.9 | -178.11 | 4.2 | -85.5 | 531.0 | 518.5 | 12.49 | 42.530 | | |
| 2,800.0 | 2,754.4 | 2,791.9 | 2,791.4 | 10.9 | 6.2 | -177.54 | 11.1 | -79.4 | 545.2 | 532.2 | 12.99 | 41.973 | | |
| 2,900.0 | 2,852.4 | 2,890.9 | 2,889.9 | 11.3 | 6.4 | -176.96 | 18.3 | -73.1 | 558.3 | 544.8 | 13.47 | 41.445 | | |
| 3,000.0 | 2,950.3 | 2,988.8 | 2,988.4 | 11.7 | 6.6 | -176.41 | 25.5 | -66.8 | 571.5 | 557.6 | 13.96 | 40.945 | | |
| 3,100.0 | 3,048.2 | 3,088.8 | 3,086.9 | 12.2 | 6.8 | -175.89 | 32.7 | -60.5 | 584.8 | 570.3 | 14.45 | 40.471 | | |
| 3,200.0 | 3,146.2 | 3,187.8 | 3,185.5 | 12.6 | 7.1 | -175.38 | 39.8 | -54.2 | 598.1 | 583.1 | 14.94 | 40.022 | | |
| 3,300.0 | 3,244.1 | 3,286.8 | 3,284.0 | 13.1 | 7.3 | -174.90 | 47.0 | -47.9 | 611.4 | 596.0 | 15.44 | 39.595 | | |
| 3,400.0 | 3,342.0 | 3,385.8 | 3,382.5 | 13.5 | 7.6 | -174.44 | 54.2 | -41.6 | 624.8 | 608.9 | 15.94 | 39.189 | | |
| 3,500.0 | 3,440.0 | 3,484.7 | 3,481.0 | 14.0 | 7.8 | -174.00 | 61.4 | -35.3 | 638.2 | 621.8 | 16.45 | 38.802 | | |
| 3,600.0 | 3,537.9 | 3,583.7 | 3,579.5 | 14.4 | 8.0 | -173.58 | 68.6 | -29.0 | 651.7 | 634.7 | 16.96 | 38.435 | | |
| 3,700.0 | 3,635.9 | 3,682.7 | 3,678.0 | 14.9 | 8.3 | -173.17 | 75.7 | -22.7 | 665.2 | 647.7 | 17.47 | 38.084 | | |
| 3,800.0 | 3,733.8 | 3,781.7 | 3,776.5 | 15.3 | 8.5 | -172.79 | 82.9 | -16.4 | 678.7 | 660.7 | 17.98 | 37.749 | | |
| 3,900.0 | 3,831.7 | 3,880.6 | 3,875.1 | 15.8 | 8.8 | -172.41 | 90.1 | -10.1 | 692.3 | 673.8 | 18.50 | 37.430 | | |
| 4,000.0 | 3,929.7 | 3,979.6 | 3,973.6 | 16.2 | 9.1 | -172.05 | 97.3 | -3.8 | 705.9 | 686.8 | 19.01 | 37.124 | | |
| 4,100.0 | 4,027.6 | 4,078.6 | 4,072.1 | 16.7 | 9.3 | -171.70 | 104.5 | 2.5 | 719.5 | 699.9 | 19.53 | 36.832 | | |
| 4,200.0 | 4,125.6 | 4,177.6 | 4,170.6 | 17.1 | 9.6 | -171.37 | 111.6 | 8.8 | 733.1 | 713.0 | 20.06 | 36.552 | | |
| 4,300.0 | 4,223.5 | 4,276.6 | 4,269.1 | 17.6 | 9.8 | -171.05 | 118.8 | 15.1 | 746.8 | 726.2 | 20.58 | 36.284 | | |
| 4,400.0 | 4,321.4 | 4,375.5 | 4,367.6 | 18.0 | 10.1 | -170.74 | 126.0 | 21.4 | 760.4 | 739.3 | 21.11 | 36.027 | | |
| 4,500.0 | 4,419.4 | 4,474.5 | 4,466.2 | 18.5 | 10.4 | -170.44 | 133.2 | 27.7 | 774.1 | 752.5 | 21.64 | 35.780 | | |
| 4,600.0 | 4,517.3 | 4,573.5 | 4,564.7 | 18.9 | 10.6 | -170.15 | 140.4 | 34.0 | 787.9 | 765.7 | 22.17 | 35.544 | | |
| 4,700.0 | 4,615.3 | 4,672.5 | 4,663.2 | 19.4 | 10.9 | -169.87 | 147.5 | 40.3 | 801.6 | 778.9 | 22.70 | 35.316 | | |
| 4,800.0 | 4,713.2 | 4,765.5 | 4,755.8 | 19.8 | 11.1 | -169.63 | 154.2 | 46.1 | 815.5 | 792.3 | 23.21 | 35.141 | | |
| 4,900.0 | 4,811.1 | 4,848.9 | 4,839.0 | 20.3 | 11.3 | -169.53 | 158.6 | 50.0 | 830.9 | 807.3 | 23.65 | 35.127 | | |
| 5,000.0 | 4,909.1 | 4,931.9 | 4,921.9 | 20.7 | 11.4 | -169.55 | 161.2 | 52.3 | 848.2 | 824.1 | 24.08 | 35.225 | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design Suden 34U-HZ Pad Sec.34-T5N-R64W - Suden 34R-323 - Wellbore #1 - Plan #1 (2-13-14) | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------|--------|-----------------|-----------------------|-----------------------------------|------------|-------------------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Semi Major Axis | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Distance Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
| 5,100.0 | 5,007.0 | 5,015.0 | 5,005.0 | 21.2 | 11.6 | -169.70 | | 162.0 | 53.0 | 867.2 | 842.7 | 24.49 | 35.413 | |
| 5,200.0 | 5,104.9 | 5,112.9 | 5,102.9 | 21.6 | 11.8 | -169.94 | | 162.0 | 53.0 | 887.1 | 862.2 | 24.94 | 35.577 | |
| 5,300.0 | 5,202.9 | 5,210.9 | 5,200.9 | 22.1 | 12.0 | -170.16 | | 162.0 | 53.0 | 907.0 | 881.6 | 25.40 | 35.711 | |
| 5,400.0 | 5,300.8 | 5,308.8 | 5,298.8 | 22.5 | 12.2 | -170.37 | | 162.0 | 53.0 | 926.9 | 901.1 | 25.86 | 35.839 | |
| 5,500.0 | 5,399.0 | 5,407.0 | 5,397.0 | 22.9 | 12.4 | -170.61 | | 162.0 | 53.0 | 945.8 | 919.5 | 26.35 | 35.896 | |
| 5,600.0 | 5,497.7 | 5,505.7 | 5,495.7 | 23.2 | 12.6 | -170.82 | | 162.0 | 53.0 | 961.4 | 934.6 | 26.79 | 35.887 | |
| 5,700.0 | 5,597.0 | 5,604.9 | 5,595.0 | 23.4 | 12.8 | -170.97 | | 162.0 | 53.0 | 973.5 | 946.3 | 27.19 | 35.799 | |
| 5,800.0 | 5,696.6 | 5,704.5 | 5,694.6 | 23.6 | 13.0 | -171.08 | | 162.0 | 53.0 | 982.3 | 954.7 | 27.57 | 35.633 | |
| 5,900.0 | 5,796.4 | 5,804.4 | 5,794.4 | 23.8 | 13.2 | -171.14 | | 162.0 | 53.0 | 987.6 | 959.7 | 27.90 | 35.395 | |
| 6,000.0 | 5,896.4 | 5,904.4 | 5,894.4 | 23.9 | 13.5 | -171.17 | | 162.0 | 53.0 | 989.4 | 961.2 | 28.21 | 35.076 | |
| 6,100.0 | 5,996.4 | 6,004.4 | 5,994.4 | 24.0 | 13.7 | -90.04 | | 161.4 | 53.0 | 989.4 | 960.8 | 28.58 | 34.624 | |
| 6,200.0 | 6,096.3 | 6,103.4 | 6,092.7 | 24.1 | 13.8 | 89.46 | | 151.0 | 53.0 | 989.5 | 960.6 | 28.84 | 34.307 | |
| 6,300.0 | 6,195.4 | 6,201.0 | 6,187.7 | 24.2 | 13.9 | 88.88 | | 128.3 | 53.0 | 989.6 | 960.6 | 29.03 | 34.091 | |
| 6,400.0 | 6,291.9 | 6,297.5 | 6,277.8 | 24.3 | 14.0 | 88.32 | | 94.3 | 53.0 | 989.9 | 960.7 | 29.18 | 33.920 | |
| 6,500.0 | 6,384.1 | 6,392.8 | 6,362.1 | 24.3 | 14.1 | 87.79 | | 49.7 | 53.0 | 990.2 | 960.8 | 29.36 | 33.730 | |
| 6,600.0 | 6,470.5 | 6,487.2 | 6,439.3 | 24.4 | 14.2 | 87.30 | | -4.3 | 53.0 | 990.5 | 960.9 | 29.61 | 33.450 | |
| 6,700.0 | 6,549.7 | 6,580.7 | 6,508.7 | 24.4 | 14.3 | 86.85 | | -66.9 | 53.0 | 990.9 | 960.9 | 30.01 | 33.015 | |
| 6,800.0 | 6,620.2 | 6,673.4 | 6,569.5 | 24.6 | 14.6 | 86.46 | | -136.9 | 53.0 | 991.3 | 960.7 | 30.62 | 32.374 | |
| 6,900.0 | 6,680.8 | 6,765.5 | 6,621.0 | 24.7 | 15.0 | 86.12 | | -213.1 | 53.0 | 991.7 | 960.2 | 31.48 | 31.507 | |
| 7,000.0 | 6,730.6 | 6,857.0 | 6,662.8 | 25.0 | 15.7 | 85.85 | | -294.5 | 53.0 | 992.0 | 959.4 | 32.61 | 30.425 | |
| 7,100.0 | 6,768.6 | 6,950.0 | 6,694.9 | 25.4 | 16.4 | 85.64 | | -381.7 | 53.0 | 992.3 | 958.3 | 34.03 | 29.156 | |
| 7,200.0 | 6,794.3 | 7,039.0 | 6,715.6 | 25.9 | 17.3 | 85.50 | | -468.2 | 53.0 | 992.5 | 956.8 | 35.70 | 27.798 | |
| 7,300.0 | 6,807.8 | 7,129.6 | 6,726.1 | 26.5 | 18.3 | 85.40 | | -558.2 | 53.0 | 992.6 | 955.0 | 37.66 | 26.359 | |
| 7,400.0 | 6,816.8 | 7,223.8 | 6,726.9 | 27.2 | 19.5 | 84.94 | | -652.4 | 53.0 | 993.3 | 953.5 | 39.86 | 24.918 | |
| 7,500.0 | 6,818.3 | 7,323.8 | 6,726.0 | 28.1 | 20.8 | 84.78 | | -752.3 | 53.0 | 993.5 | 951.2 | 42.34 | 23.465 | |
| 7,600.0 | 6,818.0 | 7,423.8 | 6,725.1 | 29.1 | 22.2 | 84.75 | | -852.3 | 53.0 | 993.6 | 948.5 | 45.07 | 22.045 | |
| 7,700.0 | 6,817.6 | 7,523.8 | 6,724.1 | 30.2 | 23.7 | 84.72 | | -952.3 | 53.0 | 993.7 | 945.7 | 47.95 | 20.723 | |
| 7,800.0 | 6,817.3 | 7,623.8 | 6,723.2 | 31.4 | 25.2 | 84.68 | | -1,052.3 | 53.0 | 993.7 | 942.8 | 50.95 | 19.503 | |
| 7,900.0 | 6,816.9 | 7,723.8 | 6,722.2 | 32.7 | 26.8 | 84.65 | | -1,152.3 | 53.0 | 993.8 | 939.7 | 54.06 | 18.383 | |
| 8,000.0 | 6,816.6 | 7,823.8 | 6,721.3 | 34.0 | 28.5 | 84.61 | | -1,252.3 | 53.0 | 993.8 | 936.6 | 57.25 | 17.359 | |
| 8,100.0 | 6,816.2 | 7,923.8 | 6,720.3 | 35.4 | 30.1 | 84.58 | | -1,352.3 | 53.0 | 993.9 | 933.4 | 60.52 | 16.423 | |
| 8,200.0 | 6,815.9 | 8,023.8 | 6,719.4 | 36.9 | 31.8 | 84.55 | | -1,452.3 | 53.0 | 993.9 | 930.1 | 63.84 | 15.569 | |
| 8,300.0 | 6,815.5 | 8,123.8 | 6,718.5 | 38.3 | 33.5 | 84.51 | | -1,552.3 | 53.0 | 994.0 | 926.8 | 67.22 | 14.787 | |
| 8,400.0 | 6,815.2 | 8,223.8 | 6,717.5 | 39.9 | 35.3 | 84.48 | | -1,652.2 | 53.0 | 994.1 | 923.4 | 70.64 | 14.071 | |
| 8,500.0 | 6,814.8 | 8,323.8 | 6,716.6 | 41.4 | 37.0 | 84.44 | | -1,752.2 | 53.0 | 994.1 | 920.0 | 74.11 | 13.415 | |
| 8,600.0 | 6,814.5 | 8,423.8 | 6,715.6 | 43.0 | 38.8 | 84.41 | | -1,852.2 | 53.0 | 994.2 | 916.6 | 77.60 | 12.811 | |
| 8,700.0 | 6,814.1 | 8,523.8 | 6,714.7 | 44.6 | 40.6 | 84.37 | | -1,952.2 | 53.0 | 994.2 | 913.1 | 81.13 | 12.255 | |
| 8,800.0 | 6,813.8 | 8,623.8 | 6,713.7 | 46.3 | 42.4 | 84.34 | | -2,052.2 | 53.0 | 994.3 | 909.6 | 84.68 | 11.742 | |
| 8,900.0 | 6,813.4 | 8,723.8 | 6,712.8 | 47.9 | 44.2 | 84.31 | | -2,152.2 | 53.0 | 994.3 | 906.1 | 88.25 | 11.268 | |
| 9,000.0 | 6,813.1 | 8,823.8 | 6,711.9 | 49.6 | 46.0 | 84.27 | | -2,252.2 | 53.0 | 994.4 | 902.6 | 91.84 | 10.828 | |
| 9,100.0 | 6,812.7 | 8,923.8 | 6,710.9 | 51.3 | 47.8 | 84.24 | | -2,352.2 | 53.0 | 994.5 | 899.0 | 95.45 | 10.419 | |
| 9,200.0 | 6,812.4 | 9,023.8 | 6,710.0 | 53.0 | 49.7 | 84.20 | | -2,452.2 | 53.0 | 994.5 | 895.5 | 99.07 | 10.039 | |
| 9,300.0 | 6,812.0 | 9,123.8 | 6,709.0 | 54.8 | 51.5 | 84.17 | | -2,552.2 | 53.0 | 994.6 | 891.9 | 102.71 | 9.684 | |
| 9,400.0 | 6,811.7 | 9,223.8 | 6,708.1 | 56.5 | 53.4 | 84.14 | | -2,652.2 | 53.0 | 994.7 | 888.3 | 106.36 | 9.352 | |
| 9,500.0 | 6,811.3 | 9,323.8 | 6,707.2 | 58.3 | 55.2 | 84.10 | | -2,752.2 | 53.0 | 994.7 | 884.7 | 110.02 | 9.041 | |
| 9,600.0 | 6,811.0 | 9,423.8 | 6,706.2 | 60.0 | 57.1 | 84.07 | | -2,852.2 | 53.0 | 994.8 | 881.1 | 113.69 | 8.750 | |
| 9,700.0 | 6,810.7 | 9,523.8 | 6,705.3 | 61.8 | 58.9 | 84.03 | | -2,952.2 | 53.0 | 994.8 | 877.5 | 117.37 | 8.476 | |
| 9,800.0 | 6,810.3 | 9,623.7 | 6,704.3 | 63.6 | 60.8 | 84.00 | | -3,052.2 | 53.0 | 994.9 | 873.8 | 121.05 | 8.219 | |
| 9,900.0 | 6,810.0 | 9,723.7 | 6,703.4 | 65.4 | 62.6 | 83.97 | | -3,152.2 | 53.0 | 995.0 | 870.2 | 124.75 | 7.976 | |
| 10,000.0 | 6,809.6 | 9,823.7 | 6,702.4 | 67.2 | 64.5 | 83.93 | | -3,252.1 | 53.0 | 995.0 | 866.6 | 128.45 | 7.747 | |
| 10,100.0 | 6,809.3 | 9,923.7 | 6,701.5 | 69.0 | 66.4 | 83.90 | | -3,352.1 | 53.0 | 995.1 | 862.9 | 132.16 | 7.530 | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design Suden 34U-HZ Pad Sec.34-T5N-R64W - Suden 34R-323 - Wellbore #1 - Plan #1 (2-13-14) | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---------------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|-----------|--------|------------------------------------------------|-----------------------------------------|---------------|----------------------------------------|-----------------------------|-------------------------------|---------------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Semi Major Axis Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Distance Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
| 10,200.0 | 6,808.9 | 10,023.7 | 6,700.6 | 70.8 | 68.3 | 83.87 | -3,452.1 | 53.0 | 995.2 | 859.3 | 135.87 | 7.324 | |
| 10,300.0 | 6,808.6 | 10,123.7 | 6,699.6 | 72.6 | 70.1 | 83.83 | -3,552.1 | 53.0 | 995.2 | 855.6 | 139.58 | 7.130 | |
| 10,400.0 | 6,808.2 | 10,223.7 | 6,698.7 | 74.4 | 72.0 | 83.80 | -3,652.1 | 53.0 | 995.3 | 852.0 | 143.31 | 6.945 | |
| 10,500.0 | 6,807.9 | 10,323.7 | 6,697.7 | 76.2 | 73.9 | 83.76 | -3,752.1 | 53.0 | 995.4 | 848.3 | 147.03 | 6.770 | |
| 10,600.0 | 6,807.5 | 10,423.7 | 6,696.8 | 78.1 | 75.8 | 83.73 | -3,852.1 | 53.0 | 995.4 | 844.7 | 150.76 | 6.603 | |
| 10,700.0 | 6,807.2 | 10,523.7 | 6,695.8 | 79.9 | 77.7 | 83.70 | -3,952.1 | 53.0 | 995.5 | 841.0 | 154.50 | 6.443 | |
| 10,800.0 | 6,806.8 | 10,623.7 | 6,694.9 | 81.7 | 79.6 | 83.66 | -4,052.1 | 53.0 | 995.5 | 837.3 | 158.23 | 6.292 | |
| 10,900.0 | 6,806.5 | 10,723.7 | 6,694.0 | 83.6 | 81.4 | 83.63 | -4,152.1 | 53.0 | 995.6 | 833.6 | 161.97 | 6.147 | |
| 11,000.0 | 6,806.1 | 10,823.7 | 6,693.0 | 85.4 | 83.3 | 83.59 | -4,252.1 | 53.0 | 995.7 | 830.0 | 165.71 | 6.008 | |
| 11,100.0 | 6,805.8 | 10,923.7 | 6,692.1 | 87.3 | 85.2 | 83.56 | -4,352.1 | 53.0 | 995.7 | 826.3 | 169.46 | 5.876 | |
| 11,200.0 | 6,805.4 | 11,023.7 | 6,691.1 | 89.1 | 87.1 | 83.53 | -4,452.1 | 53.0 | 995.8 | 822.6 | 173.21 | 5.749 | |
| 11,300.0 | 6,805.1 | 11,123.7 | 6,690.2 | 91.0 | 88.9 | 83.49 | -4,552.1 | 53.0 | 995.9 | 819.0 | 176.87 | 5.631 | |
| 11,318.9 | 6,805.0 | 11,142.6 | 6,690.0 | 91.3 | 89.2 | 83.49 | -4,571.0 | 53.0 | 995.9 | 818.5 | 177.44 | 5.612 SF | |

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design Suden 34U-HZ Pad Sec.34-T5N-R64W - Suden 34R-423 - Wellbore #1 - Plan #1 (2-13-14) | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-----------|--------|-----------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Semi Major Axis | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -90.00 | | 0.0 | -58.5 | 58.5 | | | | |
| 100.0 | 100.0 | 99.0 | 99.0 | 0.1 | 0.1 | -90.00 | | 0.0 | -58.5 | 58.5 | 58.3 | 0.22 | 261.675 | |
| 200.0 | 200.0 | 199.0 | 199.0 | 0.3 | 0.3 | -90.00 | | 0.0 | -58.5 | 58.5 | 57.8 | 0.67 | 87.080 CC, ES | |
| 300.0 | 300.0 | 299.0 | 299.0 | 0.6 | 0.6 | -171.42 | | 0.0 | -58.5 | 60.2 | 59.1 | 1.12 | 53.825 | |
| 400.0 | 399.8 | 398.8 | 398.8 | 0.8 | 0.8 | -172.09 | | 0.0 | -58.5 | 65.4 | 63.9 | 1.57 | 41.691 | |
| 500.0 | 499.5 | 498.5 | 498.5 | 1.0 | 1.0 | -173.00 | | 0.0 | -58.5 | 74.1 | 72.0 | 2.02 | 36.588 | |
| 600.0 | 598.7 | 597.7 | 597.7 | 1.3 | 1.2 | -173.96 | | 0.0 | -58.5 | 86.2 | 83.7 | 2.48 | 34.716 | |
| 700.0 | 697.5 | 696.5 | 696.5 | 1.6 | 1.5 | -174.86 | | 0.0 | -58.5 | 101.7 | 98.8 | 2.94 | 34.578 | |
| 800.0 | 795.6 | 794.6 | 794.6 | 2.0 | 1.7 | -175.64 | | 0.0 | -58.5 | 120.7 | 117.3 | 3.40 | 35.465 | |
| 900.0 | 893.6 | 892.6 | 892.6 | 2.4 | 1.9 | -176.27 | | 0.0 | -58.5 | 140.9 | 137.0 | 3.86 | 36.451 | |
| 1,000.0 | 991.5 | 990.5 | 990.5 | 2.9 | 2.1 | -176.73 | | 0.0 | -58.5 | 161.0 | 156.7 | 4.33 | 37.189 | |
| 1,100.0 | 1,089.5 | 1,088.5 | 1,088.5 | 3.3 | 2.3 | -177.10 | | 0.0 | -58.5 | 181.2 | 176.4 | 4.80 | 37.758 | |
| 1,200.0 | 1,187.4 | 1,186.4 | 1,186.4 | 3.7 | 2.6 | -177.39 | | 0.0 | -58.5 | 201.4 | 196.1 | 5.27 | 38.209 | |
| 1,300.0 | 1,285.3 | 1,284.3 | 1,284.3 | 4.2 | 2.8 | -177.63 | | 0.0 | -58.5 | 221.6 | 215.8 | 5.74 | 38.573 | |
| 1,400.0 | 1,383.3 | 1,382.3 | 1,382.3 | 4.6 | 3.0 | -177.83 | | 0.0 | -58.5 | 241.7 | 235.5 | 6.22 | 38.874 | |
| 1,500.0 | 1,481.2 | 1,480.2 | 1,480.2 | 5.1 | 3.2 | -177.99 | | 0.0 | -58.5 | 261.9 | 255.2 | 6.69 | 39.126 | |
| 1,600.0 | 1,579.1 | 1,586.2 | 1,586.2 | 5.5 | 3.4 | -178.07 | | 0.5 | -57.3 | 281.0 | 273.8 | 7.18 | 39.143 | |
| 1,700.0 | 1,677.1 | 1,695.5 | 1,695.4 | 5.9 | 3.7 | -177.90 | | 2.7 | -52.4 | 296.6 | 288.9 | 7.66 | 38.721 | |
| 1,800.0 | 1,775.0 | 1,805.8 | 1,805.2 | 6.4 | 3.9 | -177.51 | | 6.7 | -43.7 | 308.5 | 300.4 | 8.15 | 37.868 | |
| 1,900.0 | 1,873.0 | 1,905.2 | 1,904.1 | 6.8 | 4.2 | -177.08 | | 11.0 | -34.0 | 318.7 | 310.1 | 8.62 | 36.967 | |
| 2,000.0 | 1,970.9 | 2,004.7 | 2,003.0 | 7.3 | 4.4 | -176.68 | | 15.4 | -24.4 | 328.9 | 319.8 | 9.10 | 36.138 | |
| 2,100.0 | 2,068.8 | 2,104.1 | 2,101.9 | 7.7 | 4.6 | -176.31 | | 19.7 | -14.8 | 339.1 | 329.6 | 9.59 | 35.381 | |
| 2,200.0 | 2,166.8 | 2,203.6 | 2,200.7 | 8.2 | 4.9 | -175.95 | | 24.0 | -5.2 | 349.4 | 339.3 | 10.07 | 34.688 | |
| 2,300.0 | 2,264.7 | 2,303.0 | 2,299.6 | 8.6 | 5.2 | -175.61 | | 28.4 | 4.4 | 359.6 | 349.1 | 10.56 | 34.051 | |
| 2,400.0 | 2,362.7 | 2,402.5 | 2,398.5 | 9.1 | 5.4 | -175.30 | | 32.7 | 14.0 | 369.9 | 358.8 | 11.05 | 33.464 | |
| 2,500.0 | 2,460.6 | 2,501.9 | 2,497.4 | 9.5 | 5.7 | -175.00 | | 37.0 | 23.7 | 380.2 | 368.6 | 11.55 | 32.922 | |
| 2,600.0 | 2,558.5 | 2,601.4 | 2,596.3 | 10.0 | 5.9 | -174.71 | | 41.4 | 33.3 | 390.5 | 378.4 | 12.04 | 32.420 | |
| 2,700.0 | 2,656.5 | 2,700.8 | 2,695.2 | 10.4 | 6.2 | -174.45 | | 45.7 | 42.9 | 400.8 | 388.2 | 12.54 | 31.953 | |
| 2,800.0 | 2,754.4 | 2,800.3 | 2,794.1 | 10.9 | 6.5 | -174.19 | | 50.0 | 52.5 | 411.1 | 398.0 | 13.04 | 31.519 | |
| 2,900.0 | 2,852.4 | 2,899.7 | 2,893.0 | 11.3 | 6.8 | -173.95 | | 54.4 | 62.1 | 421.4 | 407.8 | 13.54 | 31.113 | |
| 3,000.0 | 2,950.3 | 2,999.2 | 2,991.9 | 11.7 | 7.0 | -173.72 | | 58.7 | 71.8 | 431.7 | 417.6 | 14.05 | 30.734 | |
| 3,100.0 | 3,048.2 | 3,098.6 | 3,090.8 | 12.2 | 7.3 | -173.49 | | 63.1 | 81.4 | 442.0 | 427.4 | 14.55 | 30.379 | |
| 3,200.0 | 3,146.2 | 3,198.1 | 3,189.6 | 12.6 | 7.6 | -173.28 | | 67.4 | 91.0 | 452.3 | 437.3 | 15.05 | 30.045 | |
| 3,300.0 | 3,244.1 | 3,297.5 | 3,288.5 | 13.1 | 7.9 | -173.08 | | 71.7 | 100.6 | 462.7 | 447.1 | 15.56 | 29.731 | |
| 3,400.0 | 3,342.0 | 3,397.0 | 3,387.4 | 13.5 | 8.2 | -172.89 | | 76.1 | 110.2 | 473.0 | 456.9 | 16.07 | 29.436 | |
| 3,500.0 | 3,440.0 | 3,496.4 | 3,486.3 | 14.0 | 8.4 | -172.71 | | 80.4 | 119.8 | 483.3 | 466.8 | 16.58 | 29.157 | |
| 3,600.0 | 3,537.9 | 3,595.9 | 3,585.2 | 14.4 | 8.7 | -172.53 | | 84.7 | 129.5 | 493.7 | 476.6 | 17.09 | 28.893 | |
| 3,700.0 | 3,635.9 | 3,695.3 | 3,684.1 | 14.9 | 9.0 | -172.36 | | 89.1 | 139.1 | 504.0 | 486.5 | 17.60 | 28.643 | |
| 3,800.0 | 3,733.8 | 3,794.8 | 3,783.0 | 15.3 | 9.3 | -172.20 | | 93.4 | 148.7 | 514.4 | 496.3 | 18.11 | 28.406 | |
| 3,900.0 | 3,831.7 | 3,894.2 | 3,881.9 | 15.8 | 9.6 | -172.04 | | 97.7 | 158.3 | 524.8 | 506.1 | 18.62 | 28.182 | |
| 4,000.0 | 3,929.7 | 3,993.7 | 3,980.8 | 16.2 | 9.9 | -171.89 | | 102.1 | 167.9 | 535.1 | 516.0 | 19.13 | 27.968 | |
| 4,100.0 | 4,027.6 | 4,093.1 | 4,079.7 | 16.7 | 10.2 | -171.75 | | 106.4 | 177.6 | 545.5 | 525.9 | 19.65 | 27.765 | |
| 4,200.0 | 4,125.6 | 4,192.6 | 4,178.6 | 17.1 | 10.4 | -171.61 | | 110.7 | 187.2 | 555.9 | 535.7 | 20.16 | 27.571 | |
| 4,300.0 | 4,223.5 | 4,292.1 | 4,277.4 | 17.6 | 10.7 | -171.47 | | 115.1 | 196.8 | 566.3 | 545.6 | 20.68 | 27.387 | |
| 4,400.0 | 4,321.4 | 4,391.5 | 4,376.3 | 18.0 | 11.0 | -171.35 | | 119.4 | 206.4 | 576.6 | 555.4 | 21.19 | 27.210 | |
| 4,500.0 | 4,419.4 | 4,491.0 | 4,475.2 | 18.5 | 11.3 | -171.22 | | 123.8 | 216.0 | 587.0 | 565.3 | 21.71 | 27.042 | |
| 4,600.0 | 4,517.3 | 4,590.4 | 4,574.1 | 18.9 | 11.6 | -171.10 | | 128.1 | 225.6 | 597.4 | 575.2 | 22.22 | 26.881 | |
| 4,700.0 | 4,615.3 | 4,689.9 | 4,673.0 | 19.4 | 11.9 | -170.98 | | 132.4 | 235.3 | 607.8 | 585.0 | 22.74 | 26.726 | |
| 4,800.0 | 4,713.2 | 4,789.3 | 4,771.9 | 19.8 | 12.2 | -170.87 | | 136.8 | 244.9 | 618.2 | 594.9 | 23.26 | 26.578 | |
| 4,900.0 | 4,811.1 | 4,888.8 | 4,870.8 | 20.3 | 12.5 | -170.76 | | 141.1 | 254.5 | 628.6 | 604.8 | 23.78 | 26.437 | |
| 5,000.0 | 4,909.1 | 4,988.2 | 4,969.7 | 20.7 | 12.8 | -170.66 | | 145.4 | 264.1 | 639.0 | 614.7 | 24.29 | 26.300 | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design | | Suden 34U-HZ Pad Sec.34-T5N-R64W - Suden 34R-423 - Wellbore #1 - Plan #1 (2-13-14) | | | | | | | | | | | Offset Site Error: | | 0.0 ft |
|-----------------------|---------------------|------------------------------------------------------------------------------------|---------------------|-----------------|--------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | | | |
| 5,100.0 | 5,007.0 | 5,087.7 | 5,068.6 | 21.2 | 13.1 | -170.56 | 149.8 | 273.7 | 649.4 | 624.5 | 24.81 | 26.169 | | | |
| 5,200.0 | 5,104.9 | 5,187.1 | 5,167.5 | 21.6 | 13.4 | -170.46 | 154.1 | 283.4 | 659.8 | 634.4 | 25.33 | 26.044 | | | |
| 5,300.0 | 5,202.9 | 5,274.2 | 5,254.1 | 22.1 | 13.6 | -170.40 | 157.7 | 291.2 | 670.8 | 645.0 | 25.80 | 25.995 | | | |
| 5,400.0 | 5,300.8 | 5,355.8 | 5,335.5 | 22.5 | 13.8 | -170.42 | 160.1 | 296.6 | 684.3 | 658.1 | 26.23 | 26.084 | | | |
| 5,500.0 | 5,399.0 | 5,436.9 | 5,416.5 | 22.9 | 13.9 | -170.55 | 161.5 | 299.8 | 699.3 | 672.7 | 26.66 | 26.235 | | | |
| 5,600.0 | 5,497.7 | 5,517.7 | 5,497.3 | 23.2 | 14.0 | -170.73 | 162.0 | 300.9 | 713.5 | 686.5 | 27.02 | 26.412 | | | |
| 5,700.0 | 5,597.0 | 5,616.3 | 5,596.0 | 23.4 | 14.2 | -170.92 | 162.0 | 300.9 | 725.7 | 698.3 | 27.38 | 26.505 | | | |
| 5,800.0 | 5,696.6 | 5,715.9 | 5,695.6 | 23.6 | 14.4 | -171.06 | 162.0 | 300.9 | 734.4 | 706.7 | 27.72 | 26.492 | | | |
| 5,900.0 | 5,796.4 | 5,815.8 | 5,795.4 | 23.8 | 14.6 | -171.14 | 162.0 | 300.9 | 739.7 | 711.7 | 28.03 | 26.388 | | | |
| 6,000.0 | 5,896.4 | 5,915.8 | 5,895.4 | 23.9 | 14.8 | -171.17 | 162.0 | 300.9 | 741.6 | 713.2 | 28.31 | 26.191 | | | |
| 6,100.0 | 5,996.4 | 6,015.8 | 5,995.4 | 24.0 | 15.0 | -90.00 | 162.0 | 300.9 | 741.6 | 712.9 | 28.69 | 25.851 | | | |
| 6,123.6 | 6,020.0 | 6,039.4 | 6,019.0 | 24.0 | 15.0 | 90.01 | 162.0 | 300.9 | 741.6 | 712.8 | 28.77 | 25.771 | | | |
| 6,200.0 | 6,096.3 | 6,115.8 | 6,095.3 | 24.1 | 15.1 | 90.00 | 160.2 | 300.9 | 741.6 | 712.5 | 29.04 | 25.537 | | | |
| 6,300.0 | 6,195.4 | 6,215.8 | 6,194.4 | 24.2 | 15.3 | 89.99 | 146.9 | 300.9 | 741.6 | 712.3 | 29.29 | 25.314 | | | |
| 6,400.0 | 6,291.9 | 6,315.7 | 6,290.8 | 24.3 | 15.4 | 89.98 | 120.7 | 300.9 | 741.6 | 712.1 | 29.49 | 25.146 | | | |
| 6,500.0 | 6,384.1 | 6,415.7 | 6,383.0 | 24.3 | 15.4 | 89.98 | 82.2 | 300.9 | 741.6 | 711.9 | 29.67 | 24.994 | | | |
| 6,600.0 | 6,470.5 | 6,515.7 | 6,469.3 | 24.4 | 15.5 | 89.97 | 32.0 | 300.9 | 741.6 | 711.7 | 29.90 | 24.804 | | | |
| 6,700.0 | 6,549.7 | 6,615.6 | 6,548.4 | 24.4 | 15.6 | 89.97 | -29.0 | 300.9 | 741.6 | 711.3 | 30.25 | 24.516 | | | |
| 6,800.0 | 6,620.2 | 6,715.5 | 6,618.8 | 24.6 | 15.8 | 89.96 | -99.9 | 300.9 | 741.6 | 710.8 | 30.80 | 24.075 | | | |
| 6,900.0 | 6,680.8 | 6,815.5 | 6,679.4 | 24.7 | 16.1 | 89.96 | -179.2 | 300.9 | 741.6 | 709.9 | 31.63 | 23.447 | | | |
| 7,000.0 | 6,730.6 | 6,915.4 | 6,729.0 | 25.0 | 16.6 | 89.95 | -265.9 | 300.9 | 741.6 | 708.8 | 32.77 | 22.628 | | | |
| 7,100.0 | 6,768.6 | 7,015.3 | 6,767.0 | 25.4 | 17.2 | 89.95 | -358.2 | 300.9 | 741.6 | 707.3 | 34.26 | 21.647 | | | |
| 7,200.0 | 6,794.3 | 7,115.2 | 6,792.6 | 25.9 | 18.1 | 89.95 | -454.7 | 300.9 | 741.6 | 705.5 | 36.07 | 20.558 | | | |
| 7,300.0 | 6,807.8 | 7,215.2 | 6,806.1 | 26.5 | 19.2 | 89.95 | -553.7 | 300.9 | 741.6 | 703.4 | 38.18 | 19.423 | | | |
| 7,400.0 | 6,816.8 | 7,315.1 | 6,815.1 | 27.2 | 20.3 | 89.95 | -653.2 | 300.9 | 741.6 | 701.0 | 40.54 | 18.294 | | | |
| 7,500.0 | 6,818.3 | 7,415.1 | 6,816.7 | 28.1 | 21.6 | 89.95 | -753.2 | 300.9 | 741.6 | 698.5 | 43.09 | 17.208 | | | |
| 7,600.0 | 6,818.0 | 7,515.1 | 6,816.3 | 29.1 | 23.0 | 89.95 | -853.2 | 300.9 | 741.6 | 695.7 | 45.83 | 16.182 | | | |
| 7,700.0 | 6,817.6 | 7,615.1 | 6,816.0 | 30.2 | 24.4 | 89.95 | -953.2 | 300.9 | 741.6 | 692.9 | 48.71 | 15.224 | | | |
| 7,800.0 | 6,817.3 | 7,715.1 | 6,815.7 | 31.4 | 25.9 | 89.95 | -1,053.2 | 300.9 | 741.6 | 689.8 | 51.72 | 14.339 | | | |
| 7,900.0 | 6,816.9 | 7,815.1 | 6,815.3 | 32.7 | 27.5 | 89.95 | -1,153.2 | 300.9 | 741.6 | 686.7 | 54.83 | 13.525 | | | |
| 8,000.0 | 6,816.6 | 7,915.1 | 6,815.0 | 34.0 | 29.1 | 89.96 | -1,253.2 | 300.9 | 741.6 | 683.5 | 58.03 | 12.780 | | | |
| 8,100.0 | 6,816.2 | 8,015.1 | 6,814.7 | 35.4 | 30.7 | 89.96 | -1,353.2 | 300.9 | 741.6 | 680.3 | 61.30 | 12.097 | | | |
| 8,200.0 | 6,815.9 | 8,115.1 | 6,814.3 | 36.9 | 32.4 | 89.96 | -1,453.2 | 300.9 | 741.6 | 676.9 | 64.64 | 11.473 | | | |
| 8,300.0 | 6,815.5 | 8,215.1 | 6,814.0 | 38.3 | 34.1 | 89.96 | -1,553.2 | 300.9 | 741.6 | 673.5 | 68.02 | 10.901 | | | |
| 8,400.0 | 6,815.2 | 8,315.1 | 6,813.7 | 39.9 | 35.8 | 89.96 | -1,653.2 | 300.9 | 741.6 | 670.1 | 71.46 | 10.377 | | | |
| 8,500.0 | 6,814.8 | 8,415.1 | 6,813.3 | 41.4 | 37.5 | 89.96 | -1,753.2 | 300.9 | 741.6 | 666.6 | 74.93 | 9.896 | | | |
| 8,600.0 | 6,814.5 | 8,515.1 | 6,813.0 | 43.0 | 39.3 | 89.96 | -1,853.2 | 300.9 | 741.6 | 663.1 | 78.44 | 9.454 | | | |
| 8,700.0 | 6,814.1 | 8,615.1 | 6,812.7 | 44.6 | 41.0 | 89.96 | -1,953.2 | 300.9 | 741.6 | 659.6 | 81.98 | 9.046 | | | |
| 8,800.0 | 6,813.8 | 8,715.1 | 6,812.4 | 46.3 | 42.8 | 89.97 | -2,053.2 | 300.9 | 741.6 | 656.0 | 85.54 | 8.669 | | | |
| 8,900.0 | 6,813.4 | 8,815.1 | 6,812.0 | 47.9 | 44.6 | 89.97 | -2,153.2 | 300.9 | 741.6 | 652.4 | 89.13 | 8.320 | | | |
| 9,000.0 | 6,813.1 | 8,915.1 | 6,811.7 | 49.6 | 46.4 | 89.97 | -2,253.2 | 300.9 | 741.6 | 648.8 | 92.74 | 7.996 | | | |
| 9,100.0 | 6,812.7 | 9,015.1 | 6,811.4 | 51.3 | 48.2 | 89.97 | -2,353.2 | 300.9 | 741.6 | 645.2 | 96.36 | 7.695 | | | |
| 9,200.0 | 6,812.4 | 9,115.1 | 6,811.0 | 53.0 | 50.0 | 89.97 | -2,453.2 | 300.9 | 741.6 | 641.6 | 100.01 | 7.415 | | | |
| 9,300.0 | 6,812.0 | 9,215.1 | 6,810.7 | 54.8 | 51.9 | 89.97 | -2,553.2 | 300.9 | 741.6 | 637.9 | 103.66 | 7.154 | | | |
| 9,400.0 | 6,811.7 | 9,315.1 | 6,810.4 | 56.5 | 53.7 | 89.97 | -2,653.2 | 300.9 | 741.6 | 634.2 | 107.33 | 6.909 | | | |
| 9,500.0 | 6,811.3 | 9,415.1 | 6,810.0 | 58.3 | 55.5 | 89.98 | -2,753.2 | 300.9 | 741.6 | 630.6 | 111.01 | 6.680 | | | |
| 9,600.0 | 6,811.0 | 9,515.1 | 6,809.7 | 60.0 | 57.4 | 89.98 | -2,853.2 | 300.9 | 741.6 | 626.9 | 114.70 | 6.465 | | | |
| 9,700.0 | 6,810.7 | 9,615.1 | 6,809.4 | 61.8 | 59.2 | 89.98 | -2,953.2 | 300.9 | 741.6 | 623.2 | 118.40 | 6.263 | | | |
| 9,800.0 | 6,810.3 | 9,715.1 | 6,809.0 | 63.6 | 61.1 | 89.98 | -3,053.1 | 300.9 | 741.6 | 619.5 | 122.11 | 6.073 | | | |
| 9,900.0 | 6,810.0 | 9,815.1 | 6,808.7 | 65.4 | 62.9 | 89.98 | -3,153.1 | 300.9 | 741.6 | 615.7 | 125.83 | 5.893 | | | |
| 10,000.0 | 6,809.6 | 9,915.1 | 6,808.4 | 67.2 | 64.8 | 89.98 | -3,253.1 | 300.9 | 741.6 | 612.0 | 129.56 | 5.724 | | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design Suden 34U-HZ Pad Sec.34-T5N-R64W - Suden 34R-423 - Wellbore #1 - Plan #1 (2-13-14) | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|-----------|--------|------------------------------------------------|-----------------------------------------|---------------|----------------------------|-----------------------------|-------------------------------|----------------------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | Semi Major Axis Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning | |
| 10,100.0 | 6,809.3 | 10,015.1 | 6,808.0 | 69.0 | 66.7 | 89.98 | -3,353.1 | 300.9 | 741.6 | 608.3 | 133.29 | 5.564 | | |
| 10,200.0 | 6,808.9 | 10,115.1 | 6,807.7 | 70.8 | 68.5 | 89.98 | -3,453.1 | 300.9 | 741.6 | 604.5 | 137.02 | 5.412 | | |
| 10,300.0 | 6,808.6 | 10,215.1 | 6,807.4 | 72.6 | 70.4 | 89.99 | -3,553.1 | 300.9 | 741.6 | 600.8 | 140.77 | 5.268 | | |
| 10,400.0 | 6,808.2 | 10,315.1 | 6,807.0 | 74.4 | 72.3 | 89.99 | -3,653.1 | 300.9 | 741.6 | 597.0 | 144.52 | 5.131 | | |
| 10,500.0 | 6,807.9 | 10,415.1 | 6,806.7 | 76.2 | 74.2 | 89.99 | -3,753.1 | 300.9 | 741.6 | 593.3 | 148.27 | 5.001 | | |
| 10,600.0 | 6,807.5 | 10,515.1 | 6,806.4 | 78.1 | 76.0 | 89.99 | -3,853.1 | 300.9 | 741.6 | 589.5 | 152.03 | 4.878 | | |
| 10,700.0 | 6,807.2 | 10,615.1 | 6,806.1 | 79.9 | 77.9 | 89.99 | -3,953.1 | 300.9 | 741.6 | 585.8 | 155.79 | 4.760 | | |
| 10,800.0 | 6,806.8 | 10,715.1 | 6,805.7 | 81.7 | 79.8 | 89.99 | -4,053.1 | 300.9 | 741.6 | 582.0 | 159.55 | 4.648 | | |
| 10,900.0 | 6,806.5 | 10,815.1 | 6,805.4 | 83.6 | 81.7 | 89.99 | -4,153.1 | 300.9 | 741.6 | 578.2 | 163.32 | 4.541 | | |
| 11,000.0 | 6,806.1 | 10,915.1 | 6,805.1 | 85.4 | 83.6 | 90.00 | -4,253.1 | 300.9 | 741.6 | 574.5 | 167.09 | 4.438 | | |
| 11,100.0 | 6,805.8 | 11,015.1 | 6,804.7 | 87.3 | 85.4 | 90.00 | -4,353.1 | 300.9 | 741.6 | 570.7 | 170.87 | 4.340 | | |
| 11,200.0 | 6,805.4 | 11,115.1 | 6,804.4 | 89.1 | 87.3 | 90.00 | -4,453.1 | 300.9 | 741.6 | 566.9 | 174.65 | 4.246 | | |
| 11,300.0 | 6,805.1 | 11,215.1 | 6,804.1 | 91.0 | 89.2 | 90.00 | -4,553.1 | 300.9 | 741.6 | 563.1 | 178.43 | 4.156 | | |
| 11,315.1 | 6,805.0 | 11,230.2 | 6,804.0 | 91.2 | 89.5 | 90.00 | -4,568.2 | 300.9 | 741.6 | 562.6 | 178.94 | 4.144 | | |
| 11,318.9 | 6,805.0 | 11,234.0 | 6,804.0 | 91.3 | 89.6 | 90.00 | -4,572.1 | 300.9 | 741.6 | 562.5 | 179.08 | 4.141 SF | | |

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design | | Suden 34U-HZ Pad Sec.34-T5N-R64W - Suden 34U-243 - Wellbore #1 - Plan #1 (2-13-14) | | | | | | | | | | | Offset Site Error: 0.0 ft | |
|-----------------------|---------------------|------------------------------------------------------------------------------------|---------------------|-----------------|--------|-----------------------|------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|---------------------------|--|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: 0.0 ft | |
| Reference | | Offset | | Semi Major Axis | | Highside Toolface (°) | Offset Wellbore Centre | | Distance | | Minimum Separation (ft) | Separation Factor | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference | Offset | | +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -90.01 | 0.0 | -27.9 | 27.9 | | | | | |
| 100.0 | 100.0 | 99.0 | 99.0 | 0.1 | 0.1 | -90.01 | 0.0 | -27.9 | 27.9 | 27.6 | 0.22 | 124.607 | CC, ES | |
| 200.0 | 200.0 | 199.0 | 199.0 | 0.3 | 0.3 | -90.01 | 0.0 | -27.9 | 27.9 | 27.2 | 0.67 | 41.467 | | |
| 300.0 | 300.0 | 299.0 | 299.0 | 0.6 | 0.6 | -171.69 | 0.0 | -27.9 | 29.6 | 28.5 | 1.12 | 26.439 | | |
| 400.0 | 399.8 | 398.8 | 398.8 | 0.8 | 0.8 | -172.92 | 0.0 | -27.9 | 34.8 | 33.2 | 1.57 | 22.162 | | |
| 500.0 | 499.5 | 498.5 | 498.5 | 1.0 | 1.0 | -174.32 | 0.0 | -27.9 | 43.4 | 41.4 | 2.02 | 21.458 | | |
| 600.0 | 598.7 | 597.7 | 597.7 | 1.3 | 1.2 | -175.55 | 0.0 | -27.9 | 55.6 | 53.1 | 2.48 | 22.390 | | |
| 700.0 | 697.5 | 696.5 | 696.5 | 1.6 | 1.5 | -176.50 | 0.0 | -27.9 | 71.2 | 68.2 | 2.94 | 24.193 | | |
| 800.0 | 795.6 | 794.6 | 794.6 | 2.0 | 1.7 | -177.23 | 0.0 | -27.9 | 90.2 | 86.8 | 3.40 | 26.498 | | |
| 900.0 | 893.6 | 892.6 | 892.6 | 2.4 | 1.9 | -177.73 | 0.0 | -27.9 | 110.4 | 106.5 | 3.86 | 28.562 | | |
| 1,000.0 | 991.5 | 990.5 | 990.5 | 2.9 | 2.1 | -178.08 | 0.0 | -27.9 | 130.6 | 126.2 | 4.33 | 30.152 | | |
| 1,100.0 | 1,089.5 | 1,093.3 | 1,093.3 | 3.3 | 2.3 | -178.30 | 0.3 | -26.4 | 149.3 | 144.5 | 4.79 | 31.147 | | |
| 1,200.0 | 1,187.4 | 1,197.9 | 1,197.7 | 3.7 | 2.6 | -178.35 | 1.5 | -21.2 | 164.5 | 159.3 | 5.25 | 31.329 | | |
| 1,300.0 | 1,285.3 | 1,303.4 | 1,302.9 | 4.2 | 2.8 | -178.28 | 3.4 | -12.2 | 176.1 | 170.4 | 5.72 | 30.781 | | |
| 1,400.0 | 1,383.3 | 1,409.8 | 1,408.4 | 4.6 | 3.1 | -178.11 | 6.2 | 0.7 | 184.0 | 177.8 | 6.20 | 29.664 | | |
| 1,500.0 | 1,481.2 | 1,516.4 | 1,513.6 | 5.1 | 3.4 | -177.84 | 9.9 | 17.5 | 188.3 | 181.6 | 6.70 | 28.114 | | |
| 1,600.0 | 1,579.1 | 1,616.4 | 1,612.0 | 5.5 | 3.7 | -177.54 | 13.7 | 34.9 | 190.7 | 183.6 | 7.19 | 26.545 | | |
| 1,700.0 | 1,677.1 | 1,716.4 | 1,710.4 | 5.9 | 4.0 | -177.25 | 17.5 | 52.3 | 193.2 | 185.5 | 7.68 | 25.160 | | |
| 1,800.0 | 1,775.0 | 1,816.3 | 1,808.7 | 6.4 | 4.3 | -176.96 | 21.3 | 69.8 | 195.7 | 187.5 | 8.18 | 23.928 | | |
| 1,900.0 | 1,873.0 | 1,916.3 | 1,907.1 | 6.8 | 4.7 | -176.69 | 25.1 | 87.2 | 198.2 | 189.5 | 8.68 | 22.835 | | |
| 2,000.0 | 1,970.9 | 2,016.3 | 2,005.4 | 7.3 | 5.0 | -176.42 | 28.9 | 104.6 | 200.7 | 191.5 | 9.18 | 21.850 | | |
| 2,100.0 | 2,068.8 | 2,116.2 | 2,103.8 | 7.7 | 5.4 | -176.15 | 32.8 | 122.0 | 203.2 | 193.5 | 9.69 | 20.961 | | |
| 2,200.0 | 2,166.8 | 2,216.2 | 2,202.2 | 8.2 | 5.8 | -175.90 | 36.6 | 139.5 | 205.7 | 195.5 | 10.20 | 20.157 | | |
| 2,300.0 | 2,264.7 | 2,316.2 | 2,300.5 | 8.6 | 6.2 | -175.65 | 40.4 | 156.9 | 208.2 | 197.5 | 10.72 | 19.425 | | |
| 2,400.0 | 2,362.7 | 2,416.1 | 2,398.9 | 9.1 | 6.5 | -175.40 | 44.2 | 174.3 | 210.7 | 199.5 | 11.23 | 18.757 | | |
| 2,500.0 | 2,460.6 | 2,516.1 | 2,497.2 | 9.5 | 6.9 | -175.16 | 48.0 | 191.8 | 213.2 | 201.4 | 11.75 | 18.145 | | |
| 2,600.0 | 2,558.5 | 2,616.0 | 2,595.6 | 10.0 | 7.3 | -174.93 | 51.8 | 209.2 | 215.7 | 203.4 | 12.27 | 17.582 | | |
| 2,700.0 | 2,656.5 | 2,716.0 | 2,694.0 | 10.4 | 7.7 | -174.70 | 55.6 | 226.6 | 218.2 | 205.4 | 12.79 | 17.063 | | |
| 2,800.0 | 2,754.4 | 2,816.0 | 2,792.3 | 10.9 | 8.1 | -174.48 | 59.4 | 244.0 | 220.8 | 207.4 | 13.31 | 16.583 | | |
| 2,900.0 | 2,852.4 | 2,915.9 | 2,890.7 | 11.3 | 8.5 | -174.26 | 63.2 | 261.5 | 223.3 | 209.4 | 13.84 | 16.138 | | |
| 3,000.0 | 2,950.3 | 3,015.9 | 2,989.0 | 11.7 | 8.9 | -174.05 | 67.0 | 278.9 | 225.8 | 211.4 | 14.36 | 15.723 | | |
| 3,100.0 | 3,048.2 | 3,115.9 | 3,087.4 | 12.2 | 9.3 | -173.84 | 70.8 | 296.3 | 228.3 | 213.4 | 14.89 | 15.337 | | |
| 3,200.0 | 3,146.2 | 3,215.8 | 3,185.8 | 12.6 | 9.7 | -173.64 | 74.6 | 313.7 | 230.9 | 215.5 | 15.42 | 14.976 | | |
| 3,300.0 | 3,244.1 | 3,315.8 | 3,284.1 | 13.1 | 10.1 | -173.44 | 78.4 | 331.2 | 233.4 | 217.5 | 15.94 | 14.638 | | |
| 3,400.0 | 3,342.0 | 3,415.8 | 3,382.5 | 13.5 | 10.4 | -173.24 | 82.3 | 348.6 | 235.9 | 219.5 | 16.47 | 14.321 | | |
| 3,500.0 | 3,440.0 | 3,515.7 | 3,480.8 | 14.0 | 10.8 | -173.05 | 86.1 | 366.0 | 238.5 | 221.5 | 17.01 | 14.023 | | |
| 3,600.0 | 3,537.9 | 3,615.7 | 3,579.2 | 14.4 | 11.2 | -172.87 | 89.9 | 383.4 | 241.0 | 223.5 | 17.54 | 13.743 | | |
| 3,700.0 | 3,635.9 | 3,715.7 | 3,677.6 | 14.9 | 11.6 | -172.68 | 93.7 | 400.9 | 243.6 | 225.5 | 18.07 | 13.478 | | |
| 3,800.0 | 3,733.8 | 3,815.6 | 3,775.9 | 15.3 | 12.0 | -172.51 | 97.5 | 418.3 | 246.1 | 227.5 | 18.61 | 13.228 | | |
| 3,900.0 | 3,831.7 | 3,915.6 | 3,874.3 | 15.8 | 12.4 | -172.33 | 101.3 | 435.7 | 248.7 | 229.5 | 19.14 | 12.991 | | |
| 4,000.0 | 3,929.7 | 4,015.5 | 3,972.6 | 16.2 | 12.8 | -172.16 | 105.1 | 453.2 | 251.2 | 231.6 | 19.68 | 12.767 | | |
| 4,100.0 | 4,027.6 | 4,115.5 | 4,071.0 | 16.7 | 13.2 | -171.99 | 108.9 | 470.6 | 253.8 | 233.6 | 20.22 | 12.554 | | |
| 4,200.0 | 4,125.6 | 4,215.5 | 4,169.4 | 17.1 | 13.6 | -171.83 | 112.7 | 488.0 | 256.4 | 235.6 | 20.76 | 12.351 | | |
| 4,300.0 | 4,223.5 | 4,315.4 | 4,267.7 | 17.6 | 14.1 | -171.66 | 116.5 | 505.4 | 258.9 | 237.6 | 21.29 | 12.159 | | |
| 4,400.0 | 4,321.4 | 4,415.4 | 4,366.1 | 18.0 | 14.5 | -171.51 | 120.3 | 522.9 | 261.5 | 239.6 | 21.83 | 11.975 | | |
| 4,500.0 | 4,419.4 | 4,515.4 | 4,464.4 | 18.5 | 14.9 | -171.35 | 124.1 | 540.3 | 264.0 | 241.7 | 22.38 | 11.800 | | |
| 4,600.0 | 4,517.3 | 4,615.3 | 4,562.8 | 18.9 | 15.3 | -171.20 | 127.9 | 557.7 | 266.6 | 243.7 | 22.92 | 11.633 | | |
| 4,700.0 | 4,615.3 | 4,715.3 | 4,661.2 | 19.4 | 15.7 | -171.05 | 131.8 | 575.1 | 269.2 | 245.7 | 23.46 | 11.474 | | |
| 4,800.0 | 4,713.2 | 4,815.3 | 4,759.5 | 19.8 | 16.1 | -170.90 | 135.6 | 592.6 | 271.7 | 247.7 | 24.00 | 11.321 | | |
| 4,900.0 | 4,811.1 | 4,915.2 | 4,857.9 | 20.3 | 16.5 | -170.76 | 139.4 | 610.0 | 274.3 | 249.8 | 24.55 | 11.175 | | |
| 5,000.0 | 4,909.1 | 5,015.2 | 4,956.2 | 20.7 | 16.9 | -170.62 | 143.2 | 627.4 | 276.9 | 251.8 | 25.09 | 11.035 | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design | | Suden 34U-HZ Pad Sec.34-T5N-R64W - Suden 34U-243 - Wellbore #1 - Plan #1 (2-13-14) | | | | | | | | | | | Offset Site Error: | | 0.0 ft |
|-----------------------|----------------|------------------------------------------------------------------------------------|----------------|-----------------|--------|-------------------|------------------------|------------------------|-----------------|------------------|--------------------|-------------------|--------------------|--|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | | |
| Measured Depth | Vertical Depth | Measured Depth | Vertical Depth | Reference | Offset | Highside Toolface | Offset Wellbore Centre | Offset Wellbore Centre | Between Centres | Between Ellipses | Minimum Separation | Separation Factor | Warning | | |
| (ft) | (ft) | (ft) | (ft) | (ft) | (ft) | (°) | +N/-S (ft) | +E/-W (ft) | (ft) | (ft) | (ft) | | | | |
| 5,100.0 | 5,007.0 | 5,115.2 | 5,054.6 | 21.2 | 17.3 | -170.48 | 147.0 | 644.9 | 279.5 | 253.8 | 25.64 | 10.900 | | | |
| 5,200.0 | 5,104.9 | 5,215.1 | 5,153.0 | 21.6 | 17.7 | -170.34 | 150.8 | 662.3 | 282.0 | 255.9 | 26.19 | 10.771 | | | |
| 5,300.0 | 5,202.9 | 5,309.5 | 5,245.9 | 22.1 | 18.0 | -170.24 | 154.3 | 678.2 | 285.3 | 258.6 | 26.70 | 10.684 | | | |
| 5,400.0 | 5,300.8 | 5,400.0 | 5,335.5 | 22.5 | 18.3 | -170.27 | 157.0 | 690.8 | 291.3 | 264.2 | 27.16 | 10.728 | | | |
| 5,500.0 | 5,399.0 | 5,491.0 | 5,425.9 | 22.9 | 18.5 | -170.41 | 159.2 | 700.7 | 299.4 | 271.8 | 27.59 | 10.854 | | | |
| 5,600.0 | 5,497.7 | 5,581.3 | 5,516.0 | 23.2 | 18.7 | -170.58 | 160.7 | 707.8 | 307.2 | 279.3 | 27.95 | 10.994 | | | |
| 5,700.0 | 5,597.0 | 5,671.5 | 5,606.0 | 23.4 | 18.8 | -170.76 | 161.7 | 712.0 | 314.7 | 286.4 | 28.25 | 11.138 | | | |
| 5,800.0 | 5,696.6 | 5,761.5 | 5,696.0 | 23.6 | 18.9 | -170.95 | 162.0 | 713.5 | 321.8 | 293.2 | 28.51 | 11.284 | | | |
| 5,900.0 | 5,796.4 | 5,860.9 | 5,795.4 | 23.8 | 19.1 | -171.11 | 162.0 | 713.5 | 327.0 | 298.3 | 28.76 | 11.371 | | | |
| 6,000.0 | 5,896.4 | 5,960.9 | 5,895.4 | 23.9 | 19.2 | -171.17 | 162.0 | 713.5 | 328.9 | 299.9 | 28.99 | 11.344 | | | |
| 6,100.0 | 5,996.4 | 6,060.3 | 5,994.5 | 24.0 | 19.3 | -91.20 | 155.1 | 713.5 | 329.0 | 299.8 | 29.20 | 11.265 | | | |
| 6,200.0 | 6,096.3 | 6,156.7 | 6,088.9 | 24.1 | 19.4 | 85.75 | 136.2 | 713.5 | 329.8 | 300.6 | 29.28 | 11.264 | | | |
| 6,300.0 | 6,195.4 | 6,250.0 | 6,177.4 | 24.2 | 19.5 | 82.58 | 106.7 | 713.5 | 331.8 | 302.4 | 29.41 | 11.283 | | | |
| 6,400.0 | 6,291.9 | 6,342.7 | 6,261.1 | 24.3 | 19.5 | 79.55 | 67.0 | 713.5 | 334.6 | 305.0 | 29.63 | 11.292 | | | |
| 6,500.0 | 6,384.1 | 6,433.0 | 6,337.4 | 24.3 | 19.6 | 76.77 | 18.8 | 713.5 | 338.1 | 308.1 | 29.95 | 11.287 | | | |
| 6,600.0 | 6,470.5 | 6,521.8 | 6,406.4 | 24.4 | 19.7 | 74.25 | -37.0 | 713.5 | 342.0 | 311.7 | 30.32 | 11.280 | | | |
| 6,700.0 | 6,549.7 | 6,609.3 | 6,467.6 | 24.4 | 19.8 | 72.02 | -99.5 | 713.5 | 346.1 | 315.3 | 30.71 | 11.267 | | | |
| 6,800.0 | 6,620.2 | 6,695.7 | 6,520.6 | 24.6 | 20.0 | 70.10 | -167.6 | 713.5 | 350.0 | 318.9 | 31.10 | 11.255 | | | |
| 6,900.0 | 6,680.8 | 6,781.1 | 6,565.2 | 24.7 | 20.2 | 68.50 | -240.5 | 713.5 | 353.7 | 322.2 | 31.48 | 11.234 | | | |
| 7,000.0 | 6,730.6 | 6,865.9 | 6,601.0 | 25.0 | 20.6 | 67.21 | -317.2 | 713.5 | 356.9 | 325.0 | 31.89 | 11.192 | | | |
| 7,100.0 | 6,768.6 | 6,950.0 | 6,628.0 | 25.4 | 21.0 | 66.25 | -396.9 | 713.5 | 359.4 | 327.0 | 32.35 | 11.109 | | | |
| 7,200.0 | 6,794.3 | 7,033.8 | 6,646.1 | 25.9 | 21.6 | 65.61 | -478.6 | 713.5 | 361.1 | 328.2 | 32.95 | 10.962 | | | |
| 7,300.0 | 6,807.8 | 7,117.3 | 6,655.0 | 26.5 | 22.3 | 65.23 | -561.6 | 713.5 | 362.3 | 328.3 | 34.01 | 10.654 | | | |
| 7,400.0 | 6,816.8 | 7,207.7 | 6,655.7 | 27.2 | 23.2 | 64.10 | -652.0 | 713.5 | 365.8 | 330.4 | 35.32 | 10.357 | | | |
| 7,500.0 | 6,818.3 | 7,307.7 | 6,655.0 | 28.1 | 24.3 | 63.73 | -752.0 | 713.5 | 366.8 | 329.8 | 37.01 | 9.911 | | | |
| 7,600.0 | 6,818.0 | 7,407.7 | 6,654.3 | 29.1 | 25.5 | 63.68 | -852.0 | 713.5 | 366.9 | 327.5 | 39.44 | 9.303 | | | |
| 7,700.0 | 6,817.6 | 7,507.7 | 6,653.5 | 30.2 | 26.7 | 63.62 | -952.0 | 713.5 | 367.1 | 325.1 | 42.03 | 8.735 | | | |
| 7,800.0 | 6,817.3 | 7,607.7 | 6,652.8 | 31.4 | 28.1 | 63.57 | -1,052.0 | 713.5 | 367.3 | 322.6 | 44.73 | 8.210 | | | |
| 7,900.0 | 6,816.9 | 7,707.7 | 6,652.1 | 32.7 | 29.5 | 63.52 | -1,152.0 | 713.5 | 367.5 | 319.9 | 47.54 | 7.730 | | | |
| 8,000.0 | 6,816.6 | 7,807.7 | 6,651.3 | 34.0 | 31.0 | 63.46 | -1,252.0 | 713.5 | 367.6 | 317.2 | 50.42 | 7.291 | | | |
| 8,100.0 | 6,816.2 | 7,907.7 | 6,650.6 | 35.4 | 32.6 | 63.41 | -1,352.0 | 713.5 | 367.8 | 314.4 | 53.38 | 6.890 | | | |
| 8,200.0 | 6,815.9 | 8,007.7 | 6,649.9 | 36.9 | 34.1 | 63.36 | -1,452.0 | 713.5 | 368.0 | 311.6 | 56.39 | 6.525 | | | |
| 8,300.0 | 6,815.5 | 8,107.7 | 6,649.1 | 38.3 | 35.7 | 63.30 | -1,551.9 | 713.5 | 368.1 | 308.7 | 59.45 | 6.192 | | | |
| 8,400.0 | 6,815.2 | 8,207.7 | 6,648.4 | 39.9 | 37.4 | 63.25 | -1,651.9 | 713.5 | 368.3 | 305.8 | 62.55 | 5.888 | | | |
| 8,500.0 | 6,814.8 | 8,307.7 | 6,647.7 | 41.4 | 39.0 | 63.20 | -1,751.9 | 713.5 | 368.5 | 302.8 | 65.69 | 5.610 | | | |
| 8,600.0 | 6,814.5 | 8,407.7 | 6,646.9 | 43.0 | 40.7 | 63.14 | -1,851.9 | 713.5 | 368.7 | 299.8 | 68.85 | 5.355 | | | |
| 8,700.0 | 6,814.1 | 8,507.7 | 6,646.2 | 44.6 | 42.4 | 63.09 | -1,951.9 | 713.5 | 368.8 | 296.8 | 72.04 | 5.120 | | | |
| 8,800.0 | 6,813.8 | 8,607.7 | 6,645.5 | 46.3 | 44.2 | 63.04 | -2,051.9 | 713.5 | 369.0 | 293.8 | 75.25 | 4.904 | | | |
| 8,900.0 | 6,813.4 | 8,707.7 | 6,644.7 | 47.9 | 45.9 | 62.98 | -2,151.9 | 713.5 | 369.2 | 290.7 | 78.48 | 4.704 | | | |
| 9,000.0 | 6,813.1 | 8,807.7 | 6,644.0 | 49.6 | 47.6 | 62.93 | -2,251.9 | 713.5 | 369.4 | 287.6 | 81.72 | 4.520 | | | |
| 9,100.0 | 6,812.7 | 8,907.7 | 6,643.3 | 51.3 | 49.4 | 62.88 | -2,351.9 | 713.5 | 369.5 | 284.6 | 84.98 | 4.349 | | | |
| 9,200.0 | 6,812.4 | 9,007.6 | 6,642.5 | 53.0 | 51.2 | 62.82 | -2,451.9 | 713.5 | 369.7 | 281.5 | 88.25 | 4.189 | | | |
| 9,300.0 | 6,812.0 | 9,107.6 | 6,641.8 | 54.8 | 53.0 | 62.77 | -2,551.9 | 713.5 | 369.9 | 278.4 | 91.53 | 4.041 | | | |
| 9,400.0 | 6,811.7 | 9,207.6 | 6,641.1 | 56.5 | 54.8 | 62.72 | -2,651.9 | 713.5 | 370.1 | 275.2 | 94.82 | 3.903 | | | |
| 9,500.0 | 6,811.3 | 9,307.6 | 6,640.3 | 58.3 | 56.6 | 62.66 | -2,751.9 | 713.5 | 370.2 | 272.1 | 98.11 | 3.774 | | | |
| 9,600.0 | 6,811.0 | 9,407.6 | 6,639.6 | 60.0 | 58.4 | 62.61 | -2,851.9 | 713.5 | 370.4 | 269.0 | 101.42 | 3.652 | | | |
| 9,700.0 | 6,810.7 | 9,507.6 | 6,638.9 | 61.8 | 60.2 | 62.56 | -2,951.9 | 713.5 | 370.6 | 265.9 | 104.73 | 3.539 | | | |
| 9,800.0 | 6,810.3 | 9,607.6 | 6,638.1 | 63.6 | 62.0 | 62.51 | -3,051.9 | 713.5 | 370.8 | 262.7 | 108.04 | 3.432 | | | |
| 9,900.0 | 6,810.0 | 9,707.6 | 6,637.4 | 65.4 | 63.9 | 62.45 | -3,151.9 | 713.5 | 370.9 | 259.6 | 111.36 | 3.331 | | | |
| 10,000.0 | 6,809.6 | 9,807.6 | 6,636.7 | 67.2 | 65.7 | 62.40 | -3,251.9 | 713.5 | 371.1 | 256.4 | 114.68 | 3.236 | | | |
| 10,100.0 | 6,809.3 | 9,907.6 | 6,635.9 | 69.0 | 67.5 | 62.35 | -3,351.9 | 713.5 | 371.3 | 253.3 | 118.01 | 3.146 | | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

| Offset Design Suden 34U-HZ Pad Sec.34-T5N-R64W - Suden 34U-243 - Wellbore #1 - Plan #1 (2-13-14) | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|-------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------------------|-----------------|------------------|--------------------|--------------------|-------------------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | Warning | |
| Measured Depth | Vertical Depth | Measured Depth | Vertical Depth | Reference | Offset | Highside Toolface | Offset Wellbore Centre | Offset Wellbore Centre | Between Centres | Between Ellipses | Minimum Separation | | Separation Factor |
| Depth (ft) | Depth (ft) | Depth (ft) | Depth (ft) | (ft) | (ft) | (°) | +N/-S (ft) | +E/-W (ft) | (ft) | (ft) | (ft) | | |
| 10,200.0 | 6,808.9 | 10,007.6 | 6,635.2 | 70.8 | 69.4 | 62.30 | -3,451.9 | 713.5 | 371.5 | 250.1 | 121.34 | 3.062 | |
| 10,300.0 | 6,808.6 | 10,107.6 | 6,634.5 | 72.6 | 71.2 | 62.24 | -3,551.9 | 713.5 | 371.7 | 247.0 | 124.67 | 2.981 | |
| 10,400.0 | 6,808.2 | 10,207.6 | 6,633.7 | 74.4 | 73.1 | 62.19 | -3,651.9 | 713.5 | 371.8 | 243.8 | 128.00 | 2.905 | |
| 10,500.0 | 6,807.9 | 10,307.6 | 6,633.0 | 76.2 | 74.9 | 62.14 | -3,751.9 | 713.5 | 372.0 | 240.7 | 131.33 | 2.833 | |
| 10,600.0 | 6,807.5 | 10,407.6 | 6,632.3 | 78.1 | 76.8 | 62.09 | -3,851.9 | 713.5 | 372.2 | 237.5 | 134.67 | 2.764 | |
| 10,700.0 | 6,807.2 | 10,507.6 | 6,631.5 | 79.9 | 78.7 | 62.04 | -3,951.9 | 713.5 | 372.4 | 234.4 | 138.00 | 2.698 | |
| 10,800.0 | 6,806.8 | 10,607.6 | 6,630.8 | 81.7 | 80.5 | 61.98 | -4,051.9 | 713.5 | 372.6 | 231.2 | 141.34 | 2.636 | |
| 10,900.0 | 6,806.5 | 10,707.6 | 6,630.1 | 83.6 | 82.4 | 61.93 | -4,151.9 | 713.5 | 372.7 | 228.1 | 144.67 | 2.576 | |
| 11,000.0 | 6,806.1 | 10,807.6 | 6,629.3 | 85.4 | 84.3 | 61.88 | -4,251.9 | 713.5 | 372.9 | 224.9 | 148.01 | 2.520 | |
| 11,100.0 | 6,805.8 | 10,907.6 | 6,628.6 | 87.3 | 86.1 | 61.83 | -4,351.9 | 713.5 | 373.1 | 221.8 | 151.35 | 2.465 | |
| 11,200.0 | 6,805.4 | 11,007.6 | 6,627.9 | 89.1 | 88.0 | 61.77 | -4,451.8 | 713.5 | 373.3 | 218.6 | 154.68 | 2.413 | |
| 11,300.0 | 6,805.1 | 11,107.6 | 6,627.1 | 91.0 | 89.9 | 61.72 | -4,551.8 | 713.5 | 373.5 | 215.4 | 158.02 | 2.363 | |
| 11,318.9 | 6,805.0 | 11,126.5 | 6,627.0 | 91.3 | 90.2 | 61.71 | -4,570.8 | 713.5 | 373.5 | 214.9 | 158.58 | 2.355 SF | |

| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

Reference Depths are relative to WELL @ 4684.0ft (RKB - 15')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Suden 34U-403

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.63°



| | | | |
|---------------------------|-------------------------------------------|-------------------------------------|-----------------------------|
| Company: | PETROLEUM DEVELOPMENT CORP Weld County CO | Local Co-ordinate Reference: | Well Suden 34U-403 |
| Project: | SEC.34-T5N-R64W | TVD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Reference Site: | Suden 34U-HZ Pad Sec.34-T5N-R64W | MD Reference: | WELL @ 4684.0ft (RKB - 15') |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | Suden 34U-403 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | Wellbore #1 | Database: | landmark |
| Reference Design: | Plan #1 (2-13-14) | Offset TVD Reference: | Offset Datum |

Reference Depths are relative to WELL @ 4684.0ft (RKB - 15')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Suden 34U-403

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.63°

